

FAO / Government of Italy Cooperative Programme



**Food and Agriculture Organization  
of the United Nations**



**Ministry of Agriculture  
and Agrarian Reform**



**Italian Cooperation**

Project GCP/SYR/006/ITA  
Assistance in Institutional Strengthening and Agricultural Policy

## **Taxation and Net Transfers to the Agricultural Sector**

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Damascus – Syria, December 2001

- Opinions and judgments expressed are the authors' only. FAO proposes the text as basis for starting the discussion among scholars and policy makers on the issues related to the subject of the study.

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## ***List of important Acronyms***

ACB	Agricultural Cooperative Bank
CPI	Consumer Price Index
CSE	Consumer Subsidy Estimates
EU	European Union
GAO	Gross Agricultural Output
GATT	General Agreement on Tariffs and Trade
GOS	Government of Syria
GSSE	General Services Support Estimate
MAAR	Ministry of Agriculture and Agrarian Reforms
NPC	Nominal Protection Coefficients
OECD	Organization for Economic Cooperation and Development
PPI	Producer Price Index
PSE	Producer Subsidy Estimates
SNA	System of National Accounts
SYP	Syrian pound
TAFCO	Foreign Trade Organization for Chemicals and Foodstuffs
TSE	Total Support Estimate
USDA	United States Department of Agriculture
WTO	World Trade Organization

## **Acknowledgements**

The consultant would like to thank everybody who has helped to complete this study.

The discussions with Atieh El Hindi (NPD), Emad El Hawari (former CTA), and Ciro Fiorillo (Agricultural Economists and CTA) provided the support needed to organize the work and helped in shaping the conclusions and recommendations of the study. Furthermore, the discussions with the two national consultants, Mr Khazma and Mr Yusouf Ismael were useful in getting a better understanding of the current economic changes in Syria's agricultural sector. Thanks are also due for discussions on Syria's current approaches to policy making with other international consultants to the project: Consuelo Varega Ortega, Juan Antonio Sagardoy, and N.S. Parthasarathy.

The analysis presented in the study would not have been possible without the support of the trainees in gathering the much needed secondary and primary data. However, the trainees have also participated in the analysis of the data. In that respect, particular mentioning deserve Basima Atiya and Majd Abdullah. Furthermore, the former trainees and today's permanent staff members of the project did an excellent job in implementing a difficult field survey and therefore deserve special thanks. Last but not least the administrative and support staff project provided great organizational help and excellent working conditions. Particularly the interpretation services by Ms Asma Matar and Ms Rola Diab were indispensable.

## Executive Summary

**Background and motivation of the study.** This study has been motivated by the gradual agricultural policy reforms which have and are being implemented in Syria ever since 1987. These reforms are expected to change not only the economic environment for farmers but also the flow of economic transfers to agriculture. The direction and magnitude of these changes is, however, unknown. Therefore, the aim of the study is to systematically assess the total amount of transfers to agriculture which is associated with all (agricultural) policies. The time period for which these transfers will be estimated is 1990 to 1999, the most recent year for which the mandatory data is available at the time being. The products covered in this study are the strategic crops and most other important agricultural commodities being produced in Syria.

**Conceptual framework for the quantitative analysis:** The framework which is developed in chapter 2 of the study for the quantification of the transfers to agriculture rests on the assumption that not only direct agricultural policies which are associated with budgetary transfers to farmers but also indirect policies have to be taken into account when estimating the total costs of agricultural policies for the Syrian economy. Based on a concept which has been developed by the OECD and applied for the assessment of transfers to agriculture in many countries around the world, we differentiate between various forms of support: first, market price support which is calculated on the basis of the per unit (per tonne) price differential between domestic producer and international commodity prices expressed in Syrian pound; second, the transfers which are associated with lowering directly or indirectly the costs of agricultural inputs such as fertilizer, seeds and pesticides as well as agricultural credits; third, general service support which is associated with the costs of running the agricultural government, research, and administration system; fourth, we are interested in the costs that are linked with subsidies to food consumers. In a final step these transfer components are added and budgetary revenues from agriculture are subtracted to get the total economic transfers to agriculture. In order to better judge the evolution of these subsidies over time they are related to Gross Agricultural Output (GAO).

**Qualitative review of agricultural policies.** In chapter 3 of the study we provide a descriptive review of the various direct and indirect agricultural policies in Syria. Various stylized observations can be made on the basis of this review: first, in the course of the 1990s and particularly in the most recent years many important steps to liberalize Syria's agricultural markets have been taken already. Second, one of the areas in which government intervention has been most substantial is the agricultural trading system. Even though the share of government involvement in foreign agricultural trade has been reduced in consecutive steps much remains to be done in order to make Syria's trade system more transparent, open, and thereby more compatible with international agricultural trading rules.

**Exchange rate policies.** Most significant trade distortions have been caused in the past by the system of multiple exchange rates and foreign currency controls. While the system of multiple exchange rates has been dismantled widely in the most recent period and many foreign currency controls have been reduced, the exchange rate might remain the single most important macro-economic variable which affects agricultural development in Syria. The estimates of market price support indicate that farmers would have been much better off in the 90s if domestic producer prices had been related to international commodity prices on the basis of an exchange rate of the Syrian pound similar to the free market exchange rate and not on the basis of the official exchange rate. The latter was, in relation to the neighboring

country exchange rate and the black market exchange rate, overvalued by a factor of three to four during most of the 90s. Even though the official exchange rate of the SYP has been gradually devalued and widely converged to the 'free market' exchange rate, further pressure on the exchange rate can be expected. While this might contribute to rising prices for food imports it will be beneficial for agricultural exporters.

**Market price support.** In the case of some agricultural products Syria's agricultural policies contribute to differences between domestic and international prices after taking transportation costs and quality differences into account. Such differences are generally labeled with the term "market price support" and can be the result of direct and indirect policy interventions. Therefore, "market price support" can even occur in cases in which no direct policies such as export taxes are implemented. Furthermore, it is noteworthy that this "market price support" component can be positive in which case it indicates a subsidy to farmers; it also can be negative in which case it indicates an implicit taxation on farmers relative to the world market. The estimates of commodity-specific levels of market price support for various agricultural commodities in Syria indicate one important observation: if there was any taxation of agricultural producers at all it applied to commodities for which Syria is expected to have a high export potential: lentils, chickpeas, olive oil, sheep and poultry, or fruits. Hence, this result clearly calls for a restructuring of direct and indirect agricultural policies by removing the high level of indirect subsidies for the latter and reducing the degree of taxation of the former. The recently passed Law No. 15 exempts all agricultural exports from the agricultural production tax and, thereby, removes one policy which is likely to have contributed to the taxation of export commodities. This reform of Syria's trade policies should foster the economic consistency of the country's agricultural trade policies.

**Credit subsidies.** Agricultural credit has been made available to farmers at a subsidized interest rate by the Agricultural Cooperative Bank (ACB). The major share of these credits (70-80%) were short term loans of less than a year which are mostly utilized for buying inputs. In contrast, there was – in comparison with other countries - only a very limited disbursements of long term credits by the official banking sector which could have fostered the adoption of efficiency enhancing production technologies. Short-run needs for capital and the lack of economic resources to engage into long-term loans limits investments for urgently needed efficiency enhancing technology. Farmers who wish to invest into more expensive capital goods mostly rely on credit provided by private merchants for which much higher interest rates than the ones applied by the ACB have to be paid. Based on the observations of relatively low overall credit subsidies being made available to farmers, well-designed subsidized credit programs for long-term capital investments could become a useful alternative to support structural change in the agricultural sector. Additional subsidized and long-term agricultural credit that would be coupled to capital investments that help to save water have the potential to enhance the efficiency of agricultural production and resource use in Syria.

**Consumer subsidies.** In the past decade the Syrian government subsidized the retail price of some major food commodities such as bread and flour, rice, sugar, vegetable oil, and tea. These general subsidies have been gradually reduced with the exception of those for flour, sugar, and rice. It is recommended to further abolish general food subsidies and replace them with targeted food subsidies to consumers who are actually in need. The government of Syria would need to define a country-specific poverty line and establish the means through which the level of poverty of individual households could be assessed. **Total support estimates.** Based on the data that is available, the calculations of commodity-specific support-levels indicate that throughout the 1990s the Market Price Support component has been the major source of transfers to agriculture. This is not generally the case but instead producers of some commodities were also taxed in the 90s. However, what is even more important is the fact that

the estimates reveal a clear trend at least when the total amount of transfers is related to GAO: the relative level of support declined from around 30% in the beginning of the 90s to less than 10 % at the end of the 90s. This can be interpreted as the effects of the agricultural policy reforms which have been implemented in the last decade: the reform policies have yielded, as expected, at least some liberalization and have contributed to a reduction of the transfers to agriculture. Particularly exchange rate convergence has narrowed the gap between domestic and international prices. However, this decline of total transfers does not tell much about the efficiency of agricultural policies nor about the remaining distortions in the agricultural sector because of the various forms of government intervention in the sector.

**Price analysis and market integration.** The comparison of wholesale prices for lamb meat in five regions of Syria indicated that the weekly prices have fluctuated within a substantial range but the week-to-week variation of prices in single regions has been very limited in some of the regions. A comparison of lamb prices movements in Syria and in the US, which is relevant in spite of quality differences, indicates only weak price responsiveness. This hints at limited market efficiency in Syrian markets. The weekly retail prices for apples indicate extreme fluctuations of up to 100% within less than four weeks. These rapid price movements are indications of strong demand and supply disruptions which might again indicate rather inefficient marketing systems. In order to enhance the degree of market integration and price responsiveness between different regions within Syria the government should enhance the means through which price information is made available to all agents engaged in the domestic marketing chain.

**Farm-household survey.** Farmers in five different governorates were interviewed to get an impression of their perception of Syria's agricultural policies. Various observations arise from the survey: Syria's farmers are aware of the fact that extension services and input subsidies have been rather important support components as if compared, for instance, with credit subsidies or government support in marketing their products. Generally, the respondents are not enthusiastic about the effects of government support policies in Syria but judge support policies positively rather than negatively. At the same time farmers seem to behave rationally in as far as they sell not only the strategic crops to state agencies which they are obliged to (cotton, sugar beet, and tobacco), but also wheat for which state agencies generally seem to offer the highest prices. Furthermore, it is evident that farmers in Syria are also similar to farmers elsewhere in as far as they prefer support policies which are associated with direct financial benefits at the end of the year as if compared with structural support measures which might only pay off in the long run (e.g. training & consultation or improving price information schemes).

# Taxation of Agriculture in Syria

## INTRODUCTION

### 1.1. Background and motivation of the study

Generally, agricultural policies in most countries around the world have to be implemented in a difficult economic environment:

Technological progress has increased the productivity of land, labor, and capital employed in agriculture in many countries of the world tremendously. Therefore, supply of agricultural products around the world has increased significantly, while demand for agricultural products grew less quickly. Because supply of agricultural products grew more quickly than respective demand international prices for many agricultural commodities have declined in nominal and in real terms during the last decades.<sup>1</sup> The result of this trend and of additional factors which reduce the competitiveness of agriculture in economic development was and still is a significant out-migration of labor from agriculture at least in the industrialized countries of the world. In all industrialized countries the contribution of agriculture to the gross national product has declined. To realize economies of scale and to maintain competitiveness the remaining farmers operate on ever bigger farms. Additionally, in industrialized countries food safety concerns are today more important than production issues and increase the pressure to produce not only more efficiently but products of ever higher quality. At the same time, in many developing countries of the world the out-migration of labor and the increase of farm sizes is prevented because of lacking employment opportunities in other sectors and/or because of cultural characteristics. For instance, land inheritance laws that favors splitting the land among all sons of a farmer contribute to further fragmentation of the farm land and ever more declining farm sizes because of which this process is referred to in many countries as the 'distribution of poverty'.

Why might these general developments and issues be very relevant for agricultural policy in Syria? Because today's agricultural markets are more and more globalized and if Syria attempts to become a more important player in international agricultural markets the agricultural policies that are in force and that will be implemented ought to take the economic environment in world agricultural markets into account.

Since 1987 the Government of Syria has started to reform the agricultural sector in gradual steps. The objective was to phase out centrally planned features and to gradually switch to indicative planning procedures which are associated with more liberal agricultural sector policies. This approach has shown positive results in terms of output development in the 1990s with the exception of the last two years in which serious droughts have reduced agricultural production. At the end of the 1990s Syria has become a net exporter for many agricultural products while at the same time significant amounts of staple products such as sugar, rice, vegetable oil, maize, dairy products like milk powder and butter as well as meat

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<sup>1</sup> The evolution of international prices will be discussed later on in Chapter 4. Table 4.1.1 provides an overview of the most relevant international prices in the 90s. If one compares the average price for some of the commodities in 1990-92 with the one in 1998-2000 it becomes obvious that these nominal prices have frequently declined. In real terms and over a longer time period this trend would even be more pervasive.

have to be imported (see Figure 1 in the Appendix). Furthermore, it is worth pointing out that this gradual approach to reforms has prevented a sharp decline of agricultural output in Syria. In contrast, the countries of eastern Europe and the Former Soviet Union (FSU) which have not chosen a gradual but a sudden reform process have experienced significant agricultural output declines in the first years after liberalization of which many have not recovered yet. It is also worth mentioning that the liberalization of agricultural policies is very high on the international policy agenda (i.e. the WTO negotiations on trade liberalization). Therefore, it is an important topic of domestic debates in most countries around the world which are major agricultural producers.

In spite of the agricultural policy reforms initiated in Syria ever since 1987 the country's agricultural sector still remains in a transitory stage and market distortions still are abundant. Therefore, it is a non-trivial question which reforms will be best for enabling Syria's agricultural sector to better exploit its comparative advantage in the future. The decision which further reforms are needed should be based on a careful assessment of the past and current effects of the complex system of agricultural policies and regulations. In fact, the likely economic effects of additional reforms should be assessed in a quantitative way prior to implementation.

## **1.2. Objectives of the study**

Against the background of the ongoing reform process with respect to Syria's agricultural policies, the major objectives of this study are: to provide a structured overview of the most relevant agricultural policy areas as well as exchange rate and foreign currency restrictions; to develop a conceptual framework with which the effects of sector and economy-wide policies on the agricultural sector can be assessed; to systematically quantify the transfers and fiscal flows which are associated with various agricultural policies and thereby quantify the level, structure, and evolution of taxation of agriculture in Syria.<sup>2</sup> Furthermore, it should be obvious that agricultural policies do not only have effects on the sector itself. In the 1990s agriculture contributed between 28-30% to total national GDP. Additionally, the share which Syrian households have to spend on average on food is with over 35 % also very high. Hence, it is obvious that changes of agricultural policies are likely to have significant economy-wide affects. At the time, economy-wide or macroeconomic policy changes such as alterations in the exchange rate are likely to be of great relevance for the economic performance of Syria's agricultural sector and therefore have to be taken into account in the analysis. In addressing these issues, answers to the question 'How has subsidization or taxation of the agricultural sector in Syria developed in the past' can be given? Based on this quantitative assessment and on the qualitative review of policies we will identify structural and short-term policy recommendations which will be related to the following questions:

- How can Syria better exploit its comparative advantage in agricultural production?
- Which policy changes will support Syria's efforts to better integrate its agricultural sector into the regional and international markets?

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<sup>2</sup> As proposed by the terms of reference 'taxation' is used in this study synonymously with 'subsidization'. Negative taxation would indicate a subsidization and vice versa, because of which the two terms can be used interchangeably. Hence, the choice of the term 'taxation' does not imply any pre-judgement of the kind of transfers that are associated with agricultural policies in Syria.

### 1.3. Choice of reference situation and product coverage

**Product coverage.** The effects of all agricultural policies will be assessed whenever applicable for the following agricultural products: Syria's strategic crops (wheat, barley, cotton, sugar-beet, cotton, chickpeas, lentils, and tobacco). Furthermore, for other agricultural commodities which are important for Syria's agricultural sector: citrus fruits (oranges and lemons), vegetables (tomatoes), fruits (apples), potatoes, beef, sheep meat (from Awas sheep), and poultry meat. In cases in which data and information is available we will also discuss the effects of agricultural policies on processed food products (e.g. cheese, olive oil).

**Time period.** In accordance with the terms of reference for this study we will review the level of transfers that has been associated with the specific policies implemented in the respective years between 1990 to date. In many cases the most recent year for which data was available was 1999.

**Reference situation.** One factor which will be decisive for the assessment of taxation of agricultural policy is the choice of the reference scenario. Normally a scenario of "full liberalization" is the relevant choice. However, it has to be acknowledged that we do not live in a world that is free of policies, because of which there is some degree of subjectivity attached to defining what is "a fully liberalized" situation. Whenever appropriate, we used internationally accepted indicators, such as world market prices, which are not only applied for the assessment of the agricultural policy transfers in Syria but for all important agricultural producers around the world.

### 1.4. Outline of the study

The organization of this study is as follows. In chapter 2 we will describe the conceptual framework that will help in quantifying transfers which are associated with specific policies as well as in the assessment of the total support granted to agriculture. We will also discuss the availability, the constraints, and the quality of data that has been used for the study. In Chapter 3 we will provide a systematic overview and qualitative review of the most important policy areas which have affected Syria's agricultural sector in the past. In Chapter 4 the results of the quantitative assessment of transfers associated with various policy areas will be presented. On the one hand this assessment will comprise estimates of product-specific estimates as well as an overview of the development of total support granted to agriculture between 1990 till 1999. Finally, Chapter 5 will present the conclusions and recommendations of the study. We will distinguish between recommendations which are related to future analysis and data needs in order to enhance the possibilities for policy analysis. The policy recommendations will be structured into general and specific recommendations. An Appendix will provide the most important results of the calculations. The data used for the calculations is presented in electronic form as an Excel-file which is also appended to this study and which can be easily up-dated by the project staff in the future as more recent data becomes available.

## CONCEPTUAL FRAMEWORK FOR THE ASSESSMENT OF THE DEGREE OF TAXATION OF AGRICULTURE IN SYRIA

### 1.5. Classification of agricultural policies affecting the taxation of agriculture

In most countries around the world the development of the agricultural sector is affected by a vast set of very different policies. The origin and the effects of such policies differ substantially. This is also true for Syria, particularly because of the various on-going policy reforms which have been implemented in the 1990s. As the objective of this study is to assess the factors which contribute to the taxation of the agricultural sector, it will be useful to categorize these policies.

From an economic point of view any effective policy is linked with a transfer. However, the means of transfers and the economic groups who have to finance the respective transfers vary widely. From the point of view of agriculture any policies can result either in subsidization or in taxation of agriculture. Therefore, various possibilities exist of in categorizing different types of agricultural policies. One possibility is to make a distinction between direct, indirect, and general subsidies. The criteria for classifying policies accordingly is the means of transfers which is associated with specific policies: **Direct policies** would be those which are associated with direct government transfers and which are directly linked to agricultural output. **Indirect policies** would be policies which are not associated with direct government transfers but instead with transfers from consumers or other sectors in the economy to agricultural producers. Any indirect policies which affect the agricultural producer prices are effectively support granted from the market participants, because of which this form of support is called **market price support**. **General subsidies** would be general support services which are provided to the whole sector and not to any specific producers (e.g. agricultural research, extension services etc.).

### 1.6. Conceptual framework

The above-mentioned distinction between various agricultural policies is not always straightforward. As in many other countries Syria has implemented a vast number of agricultural policies which comprise a series of specific institutional arrangements, which sometimes overlap, and, therefore, have sometimes even contradictory effects. One example are policies for wheat. On the one hand prices for producers are kept above import or export parity prices to stimulate domestic production. On the other hand prices for flour at the retail level are substantially subsidized in order to reduce support food consumers. Furthermore, the centrally planned features with which wheat production is administered impose significant constraints on production. Hence, the quantification of such product-specific levels of support and of the overall level of support granted to agriculture is often difficult.

Therefore, for the quantification of the overall degree of taxation or subsidization of Syrian agriculture a conceptual framework is needed. It should enable us to quantify all transfers which are associated with agricultural policies in Syria. Furthermore, data constraints have to be taken into consideration which do not allow to apply all methodological approaches which might be appropriate.

For instance, because of the high economy-wide importance of agriculture and because of the obvious importance of macroeconomic variables such as interest rates, exchange rates, etc. a

**general equilibrium framework** would be most appropriate for the analysis (see project profile No. 1 in the appendix). Such models for developing countries built on the tradition of respective blueprints as described in Dervis, DeMelo, and Robinson (1982).<sup>3</sup> However, the needed data for such an analysis, particularly an input-output-table, is not available for Syria. Therefore, even though it will not enable us to identify the economy-wide effects to their full extent, the major approach that will be used is a **partial equilibrium approach**. That implies that we will look at the support granted to specific agricultural product markets separately and then aggregate this support to get an impression of the total transfers which are associated with the set of agricultural policies between 1990 till 1999 (2000).

## 1.7. Methods applied

We will start out with calculating product-specific **Nominal Protection Coefficients** (NPC) which will be extended to calculate product-specific **Producer Subsidy Estimates** (PSEs) as they are calculated by the OECD (Organization for Economic Cooperation and Development, 2000). NPC express the ratio between the domestic producer prices ( $P^d$ ) to the border or parity price ( $P^w$ ) of the respective commodity (indicated with the index  $i$ ):

$$1) NPC_i = \frac{P^d}{P^w}$$

Calculations of PSE's are also based on the difference between domestic and international prices but allow to quantify the total annual transfers which can be attributed to a specific product by multiplying the per unit subsidy with the quantity of the respective commodity ( $Q_i$ ) produced in a given year. The absolute value of product-specific PSEs that comprises only the market price support component is calculated according to the following formula:

$$2) PSE_i = (P_i^d - P_i^w) \cdot Q_i$$

By summing the product-specific PSEs over all products (i) one gets the total transfers that are associated with the market price support in a given country context. Furthermore, the relative PSEs could be calculated by relating the absolute level of PSEs which is expressed in units of the domestic currency to GAO as a proxy for total farm revenues.

However, formula 2 only allows to quantify the **product-specific level of market price support** which is **due to the indirect policies** that are implemented in a given country. These transfers will be estimated for all major agricultural commodities produced in Syria. At the same time, Syria has implemented agricultural policies which can not easily be attributed to any specific product such as credit, input or general support policies.

In an attempt to assess the **total transfers associated with agriculture** the OECD extended the above-mentioned concept of Producer Subsidy Estimates (see Box 1). The OECD proposes to calculate Producer Subsidy Estimates, General Services Support Estimates and Consumer Support Estimates.

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<sup>3</sup> In the case of Russia, the development of such an economy-wide model has allowed valuable analyses of the effects of macroeconomic policy changes (e.g. devaluation, tax reforms, infrastructure investments, more cost-efficient marketing systems etc.) on the economic situation of agriculture in the transition process (e.g. Wehrheim 2000).

### Box 1: Calculation of total transfers to agriculture according to the OECD

#### Product-specific policy measures (Producer Subsidy Estimates /PSE)

1. **Market price support:** based on price differential between domestic and international producer prices adjusted to the same point of sale
2. **Payments on output:** direct producer support based on quantity of produced output
3. **Payments on area planted:** direct producer support based on area planted/ livestock
4. **Payments on input use:** based on the actual quantities of input used and the price differential between domestic and international prices adjusted to the farm-gate
5. **Payments on investments and capital subsidies:** based on the amount of capital invested in agriculture and the interest rate differential between agriculture and other sectors in the economy

#### General Service Support Estimates (GSSE)

6. **Investments into rural infrastructure (irrigation systems, roads, etc.)**
7. **Current expenditures associated with the administration of the agricultural sector policies**
8. **Agricultural Research**
9. **Agricultural education and training**
10. **Agricultural inspection and extension services** (animal health, sanitary and phytosanitary inspection services)
11. **Marketing support**
12. **Public stockholding**

#### Consumer Support Estimates (CSE)

13. **Market price support:** based on price differential between domestic retail (consumer) prices and consumer prices derived from international parity prices adjusted to the same point of sale
14. **Payments from taxpayers:** direct consumer support based on quantity of consumed output by lowering the prices for domestic producers

#### Total Support Estimates (ASE = PSE + GSSE + CSE)

Source: OECD 2000.

By summing up the transfers associated with the respective support components one could then assess the total Agricultural Support Estimates (ASEs) of a country. The ASEs comprise the various major components as shown in Box 1. The concept shown in Box 1 indicates only the various options which are available for the estimations. In the specific case of Syria not all but only some of the support components will be relevant for the assessment of total support associated with agricultural policies: On the **producer side** market price support seems to be particularly relevant for the strategic crops and in some cases also for other commodities. Direct

payments for outputs or based on the area planted have not been applied during the last decade. In contrast, **credit and input policies** were and are an important area of agricultural policy in Syria and, hence, are likely to be associated with transfers to producers. Because of the various reforms that have been implemented in these policy areas during the most recent years it will be interesting to assess if these changes have yielded effects on the level of respective transfers yet. Out of the **General Support Services** the components No. 6 to 11 seem to be relevant in Syria while marketing support in international markets just recently became more relevant. Item No. 12 (public stock holding) does not seem to be a major component of Syria's agricultural policy. With respect to **consumers** both type of policies seem to be relevant: market price support as well as payments from taxpayers.

Hence, by estimating the transfers that are associated with the specific areas of agricultural and food policies it would be possible to quantify the total extent of transfers, the composition of transfers, and their development over time. Data constraints are likely to limit the calculations which will be discussed in more detail in Chapter 2.5.

## **1.8. Additional means of analyzing the effects of policies on agriculture**

Because of data limitations and the partial equilibrium approach chosen some additional means of analyzing the effects of the set of agricultural policies would be appropriate. Some of the additional possibilities are sketched below:

**Determination of (effective) tariff levels.**<sup>4</sup> In many countries around the world the market price support component is the most important form of subsidies granted to agriculture. The simple reason for this is that consumers and *not* taxpayers are financing such subsidies. The most important policy instrument with which domestic producers are protected against competition from international markets are import tariffs. To quantify the product-specific 'wedge' between domestic and international prices the extent of import protection that is associated with import tariffs can normally be analyzed directly and indirectly: First, official tariffs which are levied on imports (exports) of a specific commodity can be taken from official customs statistics. However, official tariff levels and effective tariff levels are often different. Therefore, an alternative method is the calculation of the effective tariff levels. For that purpose one needs to get data on the revenues (and export taxes) which have been actually collected for each agricultural commodity at the border by the customs offices for each product. This sum of revenues can then be divided by the total value of imports (exports) in order to get the effective tariff rate (export tax rate) applied.

Even though this would have been an essential way of testing to which extent the official tariff levels in Syria correspond with effective tariffs levels, the respective data was not available from customs statistics. Therefore, at the time of finalizing this study it was not possible to calculate the effective tariffs rates. It would be an important step to collect such data in the future as it would enable policy analysts to quickly identify the effects of economic reforms which are implemented with respect to foreign trade policies. For instance, the effects of discontinuing export taxes or specific import tariffs could then be traced directly.

**Market integration.** Prices are the most important indicator in a market economy. The more flexible an economy is, the quicker prices should adjust to structural changes in a specific

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<sup>4</sup> Here we refer to 'effective tariffs' as the tariff rate that is effectively applied at the border. In economics the term 'effective tariff rate' is defined differently as the proportionate difference between the domestic value added in a given sector in relation to the respective share of value added at world market prices.

market. This is also true with respect to agricultural prices. The degree to which agricultural prices in Syria respond to each other and to changes in world commodity markets can therefore provide additional insight into the way markets perform given the specific sets of policies. We therefore will look at the evolution of weekly and monthly agricultural prices between various levels of the Syrian marketing chain (i.e. vertical market integration), between various regions in Syria (i.e. regional or spatial market integration) and between prices in Syria and international prices (i.e. international market integration).

### **1.9. Data sources and quality**

The quantification of the transfers associated with the agricultural policies in Syria and the analysis of the effects of the respective policies is associated with substantial data needs. Some of the information we used for this study was available from the “Country Profile” or other studies by international experts. However, to find consistent data sets for the whole time period to be covered in this study (1990-1999/2000) necessitated substantial additional data collection. Some of this additional data was obtained from the MAAR, notably the department of Agricultural Economics, the Ministry for Economics and Foreign Trade, The Ministry of Supply and the Syrian Customs Office. Furthermore, data on credit disbursement was received from the Agricultural Cooperative Bank and from TAFCO. Data on international prices was compiled from various international sources: FAO-Stat and FAO-Food-Outlook, EUROSTAT (the statistical office of the European Union), OECD, USDA and others.

Not all the mandatory data was available at the time this study was conducted. In some cases the data is compiled by the government but public access to it is restricted (e.g. information on the government expenditures for consumer subsidies). In such cases side calculations of respective policies will be carried out. In other cases the data and information is simply not collected in the way it would be needed. For instance, the collection of customs duties by commodity are not available from customs statistics. Or, the split of export operations between private traders and government organizations for the agricultural sector was available only for selected years but not for the complete time period.

## **QUALITATIVE AND DESCRIPTIVE REVIEW OF POLICIES AFFECTING AGRICULTURAL TAXATION**

### **1.10. Agricultural policy objectives**

The Syrian government has defined the following major objectives which determine its agricultural policies:

- Enhancing self-sufficiency and improving the trade balance by reducing agricultural imports and increasing exports.
- Promoting the integration of the agricultural sector into the economy.
- Increasing the contribution of the agricultural sector to GDP and employment.

Policy objectives normally have to serve a variety of different purposes in order to meet the expectations of different interest groups (e.g. consumers, producers, different state

organizations, and policy-makers). However, the above mentioned objectives have also some economic implications because we briefly will comment on them. The first policy objective is closely linked to an attempt to better exploit the agricultural production potential of Syria and enhance the competitiveness of the agricultural sector. Given the production conditions the potential of Syria's agriculture being competitive on international standards is in fact substantial. Removing various policy constraints and providing support to Syria's agricultural sector which enhances the efficiency and productivity of the production factors should therefore, from an economic point of view, increase the social benefits from agricultural production. The second objective seems to be directly linked with the first objective. Improving the backward linkages of the agricultural sector, i.e. the efficiency of all input operations by further privatizing the respective services will contribute to such a better integration. Along the same time the prices at which Syrian agricultural products can compete in international markets can be lowered by increasing the efficiency in the marketing chain.

Finally, the third policy objective deserves mentioning. It should be clear that it generally is difficult to increase the contribution of the agricultural sector in any country for the following reason. In most countries of the world that are agricultural producers, technological progress has increased the productivity of land, labor, and capital employed in agriculture in the last decades tremendously. Therefore, supply of agricultural products around the world has increased significantly, while demand for agricultural products grew less quickly. Because supply of agricultural products grew more quickly than demand for food, international prices for most agricultural commodities have declined in real terms during the last decades. Hence, in the course of economic development, in most countries of the world the average size of farms increased while at the same time an out-migration of labor from agriculture took place. Because the competitiveness of agriculture in relation to other sectors declined, the contribution of agriculture to the gross national product has declined in most developed countries as well. Given the world-wide trend of declining shares of agriculture in national economies it should be mentioned that any policy that attempts to increase the share of agriculture to GDP might be very costly and therefore from an economic point of view counterproductive. Therefore, this policy objective would, at least from an economic point of view, deserve reconsideration.

### **1.11. Centrally planned features of Syrian agricultural policies**

Ever since 1987 the Syrian government has chosen a policy of gradual reforms with which the economy is supposed to be liberalized in consecutive steps. This included a gradual move from central planning to indicative planning which basically involves the determination of the main strategic crops on the basis of national priorities and the availability of natural resources. Various features of this indicative planning procedure are still rather important for the way the agricultural sector in Syria operates. Particularly for the seven strategic crops (wheat, barley, cotton, sugar beet, tobacco, lentils, chick-peas) the indicative planning procedure is associated with the Syrian government administering both, production quantities and prices. However, the degree to which the government still determines production quantities and prices for these crops differs significantly. While the government sets the prices for all strategic crops, these prices are not always compulsory. For wheat, barley, sugar beet, cotton and tobacco the official prices are normally set above respective parity prices in world markets. For chick-peas and lentils the government has set prices recently below parity prices and allowed private traders to bid prices up to the respective parity prices. Only in the case of cotton, sugar beet and tobacco the farmers have to sell their production to the state processing plants. In the case of other strategic crops farmers can also sell to private traders. Particularly the production and

price determination of chickpeas and lentils has been liberalized to a relatively high degree already<sup>5</sup>.

Quantities are fixed in accordance with annual plans and are based on annual specifications of the area allocated by each farmer with specific strategic crops. Furthermore, the area of irrigated and non-irrigated land use per crop is specified. These production obligations are negotiated on the various levels of government and with the farmer associations. It is obvious that such production controls limit the flexibility of farmers to react to market developments which are reflected by changes in relative prices.

## 1.12. Exchange rate policies

Syria's exchange rate policies are likely to be the single most important macroeconomic policy affecting the development of the country's agricultural sector. In fact, they have the potential to overcompensate the effects of various sector-specific policies. Therefore, an assessment of the effects of various exchange rate policies is mandatory.

**Reforms of exchange rate policies.** Generally, Syria has implemented a system of multiple and fixed exchange rates. For agriculture exchange rates for the imports of agricultural inputs, for the im- and exports of agricultural commodities were defined. However, in many cases these were accounting artifices only! For instance, imports of agricultural food staples had to be made at the free market exchange rate while the total value of imports in SYP was evaluated at the exchange rate for agricultural imports. Furthermore, the use of foreign currency has been restricted by controls (see following section). During the most recent period Syria has made substantial progress in reducing the exchange rate distortions. The respective policies consisted of two major components which are depicted in Figure 3.3-1 and in Table 3.3-1 (see Appendix for all Tables and Figures): first, a unification of the various exchange rates, and secondly, a devaluation of all exchanges rates and thereby, bringing them closer to the prevailing market exchange rate.

The unification of the exchange rates which are relevant for agriculture started in the early 1990s. In 1992 the exchange rate at which pesticides had to be imported was increased from 11.25 to 40 SYP/US\$. In 1994, an adjustment of similar magnitude followed with respect to the exchange rate at which fertilizers were imported. Finally, in the year 2000 all remaining exchange rates were adjusted from the previous value of 11.25 to 46.5 SYP/US\$. Hence, it is obvious that the unification of exchange rates has also resulted in a significant (nominal) devaluation of the Syrian Pound in relation to the US\$ and other western currencies.

This review indicates that the unification of exchange rates was mostly done by one major first adjustment which was followed by gradual steps of further devaluation. In fact, this process continues and in May 2001 a decree has been prepared with which a further devaluation of the official exchange rate to 48.5 SYP/US\$ was issued. The objective of this decree is to devalue the official exchange rate of the SYP to the US\$ to reach its free market equivalent. By doing so the gap that still exists with respect to the free market exchange rate and the neighboring countries exchange rates has been further reduced. Because of relatively

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<sup>5</sup> The institutional details of the "centrally planned administration" of the strategic crops will not be discussed in detail here as it has been described in other studies of the project most notably a study by Westlake's study on strategic crops (2000).

moderate inflation rates the substantial nominal devaluation which has been implemented during the last years has also resulted in a devaluation of the real exchange rate.

Nevertheless, pressure to devalue the Syrian currency might continue for various reasons in the future. In fact, the current exchange rate is likely to be the most important factor that discriminates against (taxes) the agricultural sector of Syria. Further devaluation would offer the possibility to reduce this form of discrimination (taxation). Further devaluation could, in fact, open “windows of opportunities” for Syria’s agricultural sector for various reasons. For export oriented sectors such as agriculture a gradual devaluation of the national currencies has shown positive effects in the past. In many countries of Latin America, for instance, the devaluation of the domestic currencies has removed the effective taxation of agriculture and kick-started agricultural development. Various economic reasons explain this: first a devaluation enhances not only the competitiveness of domestic agricultural raw products but also that of domestically processed food commodities within the domestic economy. Secondly, it enhances the competitiveness of Syria’s agricultural exports in international markets because domestic producers would receive higher revenues in Syrian Pounds.

However, without any quantitative assessment it is difficult to speculate about the specific degree of exchange rate adjustments that will occur under a more flexible system in the future. Theoretically various demand and supply factors would affect the ‘market’ for the Syrian currency if the exchange rate would be allowed to adjust freely to respective market conditions. Generally, the following factors are expected to have substantial effects on the exchange rate of a country: the growth rate of the economy, the level of inflation, the level of interest rates as well as psychological factors which shape the expectations of potential investors. The relative differences in the development of these variables between the country under consideration and other countries will be decisive for the development of the country’s exchange rate over time. More specifically and given the trade structure of Syria the following factors would play a prominent role in the determination of the country’s exchange rate under a flexible system: development of import demand after further liberalization of Syria’s trade regime; development of export demand particularly for raw oil from Syria; the balance of capital transfers of Syria (the balance of remittances of workers from abroad, capital exports to other countries and capital imports in the form of foreign direct investment). These and other factors would influence the “price” of Syria’s currency in the future. All of them are related to the overall competitiveness of the Syrian economy. Without being able to quantify these factors, the experience from other countries of income levels that are comparable to the one of Syria and even of higher income suggests that the pressure to devalue the SYP further is likely to continue in the future.

Given the fact that Syria’s government currently still determines the exchange rate, due consideration should be given to continue the gradual devaluation of the SYP. Given the economic situation of Syria, a gradual devaluation seems to be superior to a sudden devaluation for two major reasons: first it might reduce the pressure on the SYP once a full liberalization of the exchange rate regime will be implemented. Second, it would dampen the negative social consequences that can be associated with sudden devaluation as they have been experienced by some economies of South East Asia and by Russia in the course of the last world financial crisis in 1997/1998. As Syria is also importing various staple commodities (e.g. sugar, rice, vegetable oils, and dairy products) the price for these food items would increase suddenly following a strong devaluation. If the devaluation would take place gradually households have more time to adjust to the respective change of food prices. Therefore, it is recommended to adjust the exchange rate in the future further and in gradual steps.

**Equilibrium exchange rate.** Because of the distortions intrinsic in Syria's multiple exchange rate system a careful evaluation of respective policies is essential in the quantitative assessment of indirect subsidy levels which are associated with comparisons of domestic and foreign prices. As an approximation we have used a trade weighted exchange rate which indicates to which extent the official exchange rate has differed from a market based exchange rate (see Table 3.3-1).

**Currency restrictions and other export constraints.** Furthermore, the use of foreign currency revenues on both the import and the export side has been controlled in the 1990s. Foreign currency earning from exports, for instance, could be used in either one of the following three ways: first, the revenues can be used for the imports of products which are not on the list of (agricultural) products prohibited to be imported; second, the foreign exchange revenues can be sold to other dealers or the Commercial Bank of Syria; third, it can be saved in a foreign currency account and used later on. At the same time, the exporter was obliged to exchange 25% of its foreign currency earnings at the neighboring country exchange rate. In the beginning of the 1990s this exchange rate was at 42 SYR/US\$ and devalued to 46.5 SYP/US\$ in 2000. It is now equivalent with the free market exchange rate. During most of the 90s the neighboring country exchange rate was below the black-market as it prevailed in Damascus and therefore continues to discriminate against exporters.

In turn, on the import side each importer had to prove that the foreign currency needed for imports were earned from exports. Another peculiarity was applied to imports of important food staples such as wheat, sugar, rice etc. While the exchange rate at which the foreign currency had to be bought was the market exchange rate (about 50 SYP/US\$), the calculation of import tariffs was based on the exchange rate for agricultural imports which was equivalent to the official exchange rate (11.25 SYP/US\$ between 1990 and 1999). Hence, the product-specific tariffs were calculated on a much lower import value (in SYP). This effectively reduced the level of import tariffs and thereby effectively subsidised agricultural imports. Such exchange rate and currency regulations reduce the transparency of agricultural im- and export regulations. While it has to be acknowledged that the exchange rate unification and realignment that has been implemented during the last two years has reduced the respective distortions already it is recommended to abolish such regulatory constraints all together.

### **1.13. Tariff and non-tariff barriers to trade**

**Development of trade regime and trade structure.** Before 1985 all import and export operations were controlled by the state. Since 1985 private traders were allowed to import industrial inputs. After 1987 more substantial reforms were implemented in an attempt to liberalize Syria's trade regime. One part of these reforms was to allow private traders to export agricultural commodities. Today trade for some agricultural products such as fruits and vegetables is dominated by private traders. Trade with strategic crops, particularly, cereals cotton, tobacco, and sugar remains widely in the hand of state organizations. Figure 3.4-1 documents for total manufacturing trade a high share of public exports while state agencies have reduced their import operations in the course of the 90s already. However, the use of foreign currency earnings remained restricted by various regulations. Furthermore, in 1991 a law (No 10) was passed which gave more concessions to foreign traders. Because of these changes exports diversified substantially as private traders were successful in exporting fruits, vegetable, and other food commodities to Arab Gulf countries and garments to European countries. GDP also grew in this period. However, in the second half of the 1990s the Syrian economy experienced a depression again. Only at the end of the 1990s new reforms were

initiated to liberalize the trade system further. However, they were not yet sufficient to remove the trade restrictions which are still in place today. Therefore, since the 1990s major policy reforms have been pursued and are still being implemented today.

The trade structure of Syria changed in the 90s to some extent but with the exception of 1997 Syria had a negative trade balance in each year. The major share of its commodity imports accrued from oil and oil exports. The major share of imports was realized by the manufacturing sector.

**Import tariffs.** Imports of agro-food commodities are subject to two types of tariffs. First, a ‘product-specific import tariff’ which differs between 1 and 150%. Table 3.4-1 gives an overview of the import tariffs for agricultural commodities which were applied in early 2001. They have been effective throughout most of the 1990s. The highest import tariff rates are applied for premium food items such as caviar (100%). This seems to be excessively high. Furthermore, tariff variation is very high! While tariff rates might differ it would be better to keep tariff variation as low as possible. The experience from Chile, for instance, shows that the introduction of a more ‘uniform tariff schedule’ has not only significantly reduced the incentives for corruption but it has also contributed to export growth.

Second, an additional ‘general import tariff’ which varies between 6-35% and which increases underproportionally with the level of the product-specific import tariff (see Table 3.4-2). This additional tariff is supposed to collect fees that in turn are used for various government expenditures (e.g. defense, consumption, schooling, harbor, transportation etc.). Law No.1 from 1980 specified some exemptions from the need to pay the ‘general import tariff’. Imports of important consumer products such as flour, for instance, were exempted from these additional tariff payments.

Again no data was made available on the extent of annual tariff revenues that has been collected with this tariff. If the tariff levels which are reported in Table 3.4-2 have actually been applied the ‘general import tariff’ should have been a significant source of additional import protection. Furthermore, the revenues collected with the ‘general import tariff’ must have been substantial as well.

From an economic point of view the application of such a ‘general import tariff’ reduced the transparency of Syria’s trade system. If revenue objectives were the major reason for imposing this additional customs tariff it would have been more beneficial from the beginning on to raise product-specific import tariffs instead of imposing an additional tariff.

Because of the obvious disadvantages inherent in the ‘general import tariff’ scheme it has been liberalized in early 2001. A first decree reduced the level of the ‘general import tariff’ for all product groups to 1%. A second decree which at the time this study was written but has not been signed yet, foresees the complete abolishment of the ‘general import tariff’.

These measures are significant steps towards further liberalization of Syria’s trade regime. As long as this reduction in trade protection is not compensated for by increasing the product-specific import tariff, the economic effects should be measurable in the future. The difference between domestic and world market prices should narrow. Furthermore, domestic prices for imported commodities should decrease, which in turn will be particularly beneficial for those consumers who rely on imported food commodities to a great extent.

**Non-tariff import constraints.** Non tariff import constraints for agricultural commodities amount in Syria. In an attempt to protect producers of fruits and vegetables – which is likely to be one sub-sector of agriculture which enjoys relatively high comparative advantages – a total import ban for fruits and vegetables has been in force during the 90s. Imports of vegetables and fruits from Lebanon and Jordan were allowed in certain periods of the year

according to an agricultural production calendar. Furthermore, “Five Star Hotels” were allowed to import tropical fruits some of which can be found today in food retail markets of Damascus.

**Import-export-symmetry.** After 1987 the private sector was allowed to import production inputs and agricultural raw materials and processed food stuffs subject to the condition of having earned the mandatory foreign exchange in export operations. However, the exporter was allowed to use a specific share of his export earnings only for importing commodities. This share differs according to the exported commodity. For example, in the case of wool exports (from sheep), 75% of export earnings may be used for importing agricultural commodities, only. Resolutions which became effective in 1999 allowed such “import-export-symmetries” also in the case of flour. Private mills and pasta factories were allowed to import flour but had to earn the foreign exchange by exporting the respective commodities again.

Another example is related to trade in sheep meat. Syria seems to have a comparative advantage in the production of Awas sheep which enjoys high demand particularly in Gulf countries. The export value of Awas sheep was US\$ 46 Mio. in 1997, 49 in 1998, and 55 in 1999. However, exports of the Awas sheep were substantially constraint by imposing an “import-export-symmetry” on it: for each quantity of Awas sheep exported the exporter had to import the double quantity of sheep meat of lower quality. The rationale for this arrangement was determined by food security concerns. Recently, this regulation was given up allowing for any amounts of exports of Awas sheep the exporters wishes to make (Decision No. 1 of the Prime Minister, April 7<sup>th</sup>, 2000). However, it is obvious that any such constraints prevent that Syria can better exploit its comparative advantage and realize its full export potential. Another example for an obligatory “import-export-symmetry” was imposed when bananas were imported. Such imports were subject to exports of apples and citrus fruits in respective quantities.

**Approval by the Ministry.** Only products for which no import ban exists can be imported. Most import operation need approval by the Ministry of Agriculture and Agrarian Reform. The Ministry also assures that the import operation satisfies the sanitary and phyto-sanitary standards as defined by the Syrian Government. Some agro-food imports are exempted from the obligation of being approved by the Ministry of Agriculture (see Table 3.4-3). The more bureaucratic such procedures will be the higher the incentives for corruption will get. Therefore, it seems to be important that the customs codes defines clearly the conditions for any such import operations leaving only few decisions at the descretion of administrators in the Ministry and at the Customs offices.

**Export policies.** One of the major recent objectives of Syria’s foreign trade policy is to encourage the exports of commodities and services and to diversify the structure of exports. In an attempt to support this objective, in 1986, the Export Committee was established. This Committee is chaired by the Deputy Prime Minister for economic affairs and its secretariat is attached to the Ministry of Economics and Foreign Trade. The Supreme Agricultural Council and various other government institutions and Ministries engaged in export activities are represented in this committee. The Export Committee is responsible in designing export policies, identifying the commodities to be exported by each para-statal or ministry, and supervising the export operations. It also decides on export promotion programs and measures to eliminate export constraints. More recently it also attempted to change the general export strategy: instead of merely disposing of surplus quantities not needed for domestic consumption on international markets, it encouraged the production of commodities specifically tuned for international markets. This seems to be particularly important because in export markets quality standards matter today more than ever before.

**Private sector engagement in agricultural export operations.** Ever since the liberalization of the Syrian economy has been initiated in 1987, the Export Committee in accordance with the guidelines designed by the Government of Syria started to ease export operations of agro-food products by the private sector. Today the private sector is allowed to engage in the following export operations:

- fruits and vegetables;
- all other minor agricultural crops
- strategic crops (including wheat, cotton, sugar, and tobacco) except flour exports which need specific approval
- Live animals except wild birds which have been domesticized
- Meat, and other animal products contingent to the approval of the Ministry of Agriculture and Agrarian Reforms

However, various restrictions are still in force which constitute serious constraints for private export operations. For most products mentioned above, the exporter needs to get an export license. Exports of fruits and vegetables are permitted without getting an export license.

The single most important factor discriminating against private agricultural exporters is the exchange rate system that has been applied in the 90s (see previous section on exchange rates above).

**Export taxes.** According to Syria's legislation an agricultural production tax is levied on all agricultural commodities which are exported. Effectively this constitutes an export tax. Generally, this tax ranges between 9.5 and 12% of the production value. The products can be categorized as follows:

- Products on which an production tax of 12% of their average price at the time of export is levied. This product group includes fresh and processed vegetables and fruits, olives, olive oil and other products made from olives (a total of 88 commodities).
- Products on which an export tax of 9-9.5% of their average price at the time of exports is levied (see [Table A- xx](#) in the Appendix).

However, there have been various exemptions from these export taxes in the recent past. Particularly dry and frozen vegetables of superior quality standards and in recent years all fruits and vegetable products have been exempted from the export tax. In 1996, olive oil and in the year 2000 cotton has been exempted from the export tax. In 2001, government decree No. 15 exempted all agricultural commodities from this export tax.

Additionally, all export operation were subject to the following general export policies:

- An "income tax" of 1% of all export revenues is levied on all earnings from exports.
- Tax on foreign currency earnings of 10 Piasters per dollar.

These policies were valid until 2001. However, in the meantime a new reform package has been passed by the Government of Syria which foresees to discontinue the payment of export taxes and fees on foreign currency earnings from export operations.

**Export "encouragement".** In compliance with the government's objectives, the Export Committee initiated various measures to ease export operations of agricultural commodities. The following measures seem to be particularly relevant:

- Production taxes imposed on cotton exports were eliminated. At the same time, cotton, cotton seeds, yarns and cloth for textiles were exempted from agricultural production taxes when being processed and exported by domestic textile plants (Law No. 7 of 1999).

While no explicit export subsidies were used exports of vegetables and fruits were supported via various “encouragement”:

- Export of vegetables and fruits were also exempted from agricultural production taxes.
- The income tax on export profits was reduced from 1.9% to 1% (Executive instructions No. 9124/9/2 of 1997).
- The tax on export earnings was reduced to 10 Piasters per Dollar.
- Eliminating the commission of 5% imposed by the local administration on sales in the wholesale markets (Suk El Hal).

Other measures of “export encouragement” included a reduction of air freight rates for vegetables and fruits, especially citrus fruits. Furthermore, imports of machines used for packing, grading, and sorting of fruits and vegetables were made easier.

Additionally, olive and olive oil exports were supposed to be encouraged. For this purpose various working groups were established to explore the options of enhancing olive oil exports. One of the working groups was concerned with reducing the import tariffs for glass bottles. Another working group was supposed to establish a laboratorium with which the compliance of Syrian olive oils with international standards could be checked. Moreover, the export-oriented oil processing mills got access to preferential loans.

**Export strategy as of 2001.** A new export strategy by the Ministry of Economics and Foreign Trade aspires to increase exports, employment in export-oriented sectors, and a better integration of Syria into the global trading system. To meet these objectives various activities have been pursued:

**Negotiations of regional trade agreements.** Similar to other countries, Syria aspires to improve its trade relations with important trade partners by negotiating and implementing bi- and multilateral trade agreements. Three examples are particularly important:

- The multilateral Arab Free Trade Agreement: In 1998 an Arab free trade agreement was signed between Syria and other Arab countries, specifically Saudi Arabia, United Arab Emirates and Iraq. The objective of this agreement was to reduce customs tariffs for agricultural products by 10% annually and a complete abolishment of respective tariffs by the year 2007. However, the agreement permitted each country to protect some sensitive products for at least some time each year.
- Bilateral agreements with Arab countries: no free trade agreement has been concluded yet with these two neighboring countries yet. However, agreements were signed which were first steps in such a direction. With Lebanon an agreement was signed granting customs tariff exemption to most agricultural products except for some sensitive ones. A full elimination of agricultural tariffs was envisaged by the year 2004. With Jordan, some tariff-free quotas were negotiated, while quantities exceeding these tariff quotas continue to be subject to normal tariffs. Furthermore, the Ministry of Economics and Foreign Trade negotiates with Lebanon and Egypt to exempt olive oil imports from Syria from customs fees.
- Bilateral agreement with the European Union: Similarly to other non-EU Mediterranean countries (e.g. Morocco, Tunisia, etc.) Syria aspires to sign a bilateral

trade agreement with the EU which will ensure better market access particularly for agro-food products and textiles.<sup>6</sup> Part of the regional trade agreement with the EU is the negotiation of export quotas. For instance, the Ministry of Economics and Foreign Trade has started initiatives to negotiate with the EU over the terms of export quotas for olives and olive oil. Respective negotiations are still on-going and an agreement is expected in the next rounds.

It should be noted that some of the above mentioned regulations are not in accordance with the principles of the World Trade Organization (WTO). For instance, the tariff-exemptions with Lebanon would violate the WTO's most-favored-nation-principle according to which any customs concession granted to one trading partner also have to be granted to all WTO members. Exceptions from this rule are possible when two or more countries sign a free trade agreement of which the WTO is notified. Furthermore, according to Article XXIV of the GATT agreement such regional trade agreement must include "substantially all trade". This implies that "sensitive products" such as agricultural commodities may not be excluded from the free trade agreement (cf. ROBERTS AND WEHRHEIM 2001). Hence, if Syria will become a member of the WTO in the future these regional trade agreements will be under the scrutiny of the WTO members which might result in the need to adapt them to WTO standards.

**Liberalization of the foreign currency regime.** The export strategy of the Ministry of Economics and Foreign Trade proposes some changes in order to reduce some of these non-tariff constraints.

- Currently a positive list indicates which products are allowed to be imported by private traders. This list should be replaced by a negative list which specifies only those products which for public health or safety reasons are not supposed to be imported by private traders.
- Elimination of the obligation to have the foreign currency in advance.
- Elimination of the public monopoly on imports of strategic crops

Furthermore, the following exchange rate reforms which – when being implemented – would be very important measures in liberalizing Syria's trade regime are being proposed:

- allowing private exporters to keep 100% of their export earnings
- exchange 100% of export earnings at the prevailing market exchange rate
- unify exchange rates

**Export promotion.** Various institutional reforms were proposed to improve the efficiency of trade operations:

- Facilitating custom clearance.
- Computerising the customs department work.
- Financial support services for export operations by government agencies or institutions.
- Enhance the transport infrastructure particularly with respect to exports to Gulf countries and to the European Union.

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<sup>6</sup> Detailed information on the agreement with the European Union is available from another study prepared for the project "Institutional Strengthening and Agricultural Policy" prepared by José Coque.

- Create a Syrian export promotion centre which provides information on foreign marketing opportunities, export facilities, export insurances, and quality standards of importing countries as well as training and technical assistance on export operations.

**Tariffication of non-tariff import constraints.** The standards international trade rules related to agricultural trade are set by the Agreement of Agriculture in the GATT/WTO. One of the most important obligations accepted by the member countries of the WTO –as of December 2001 141 countries are member of this organisation – is the tariffication of agricultural import and export constraints. In the light of the manifold fees, tariffs, quantitative import bans and seasonal import constraints it seems to be rather important to remove many of the non-tariff barriers to imports and develop a standard tariff scheme. This tariff scheme should contain well-defined tariff-rates for all products which correspond with the foreign trade objectives of the Syrian government. Hence, tariff rates might differ, if, for instance, import protection should be particularly high for a specific group of agricultural commodities. However, for administrative reasons it would be better to keep tariff variation as low as possible. Another argument in favour of a “uniform tariff” schedule is that uniform tariffs reduce the incentives for corruption.

**Encouragement of private traders.** Even though private traders today play a far more important role in import and export operations of agricultural commodities in Syria, their activities are still seriously constrained by administrative controls and restrictions. These restrictions ought to be removed for various economic reasons. First, private traders are said to be the most efficient in identifying the most profitable export and import markets. Second, private entrepreneurs in market-based economies have also shown to be innovative in identifying the most efficient means of transporting and marketing agricultural commodities from the point of production to the point of sale. In fact, given the conditions of export-import operations for agricultural commodities in Syria an increase in the efficiency of the marketing system is urgently needed. Third, the admission of more private traders will increase competition in agricultural trade operations which can prevent the occurrence of non-competitive behaviour of traders which might be harmful for producers of agricultural commodities.

**Export encouragement ....** The export strategy as developed by the Ministry of Economics and Foreign Trade contains many conclusive proposals for reforming export policies in an attempt to encourage and diversify commodity exports of Syria. In general, as mentioned above, the role of the private sector should be improved and the state should reduce its activities to facilitate the export operations of the private sector and not vice versa. Nevertheless the state can assume an important role in providing various support measures to private agents. The objective of such measures should be to reduce the marketing costs which are particularly crucial in the case of agricultural commodities which can be produced at low costs in various countries around the world. Therefore, the efficiency of the marketing chain for food commodities is likely to be decisive for question whether a country can enter a foreign market or not.

What kind of products are demanded by international markets? It is unlikely that Syria will develop a comparative advantage in bulk commodities such as cotton, wheat or sugar. Instead international markets are demanding high valued, specialised food commodities of which Syria has to offer quite a few. What matters with respect to these markets are three things: quality, quality, and quality! The higher the quality of the food products, the higher the willingness to pay of food consumers with high incomes and, hence, the price. Because of the high quality standards demanded and the perishable character of most agricultural commodities the state can provide support to agricultural producers and exporters in various

areas: development of quality standards and certificates; enhancing the availability of storage and packaging facilities; upgrading transport facilities from the point of production to the export destination etc.

Another area in which the state can provide valuable support is in lowering the costs of gathering the information mandatory to operate in foreign markets. For instance, in this digital world, improvement in the access to the World-Wide-Web and thereby enhancing the access to important information around the world would be one important step. It could help private exporters in getting the price information from foreign markets that are needed to explore promising export possibilities.

**... but no export subsidies.** It is worth noting that the *export strategy* of the Ministry of Economics and Foreign Trade *does not propose the use of export subsidies* as a means of stimulating exports of agricultural commodities. It should be clear that any export subsidies which would be paid by the Syrian government to agricultural exporters constitute effectively a subsidy of foreign consumers by Syrian taxpayers. Furthermore, the practise of agricultural export subsidies of major western exporters in the industrialised countries is under significant pressure within the WTO and is likely to be further restricted by the on-going round of the WTO's trade negotiations. Generally the same is true for insurance schemes for agricultural exports.

#### **1.14. Agricultural input subsidies**

Agricultural input subsidies have been another important area of agricultural policy at the beginning of the 90s. In the course of the 90s they were consecutively phased out and today only limited input subsidies remain. Nevertheless some general observations are worth mentioning:

- Electricity and fuel are the two inputs which continue to be effectively subsidized, however, for the whole economy and not only for agricultural producers. The generally low price level for energy does not offer any incentives to use these resources more efficiently.
- The operation and maintenance costs for the public irrigation system carries a high cost. Given the scarcity of water the lack of a price for water must also be considered to carry a subsidy from an economic point of view. The data in Table 3.5-1 indicates that two crops namely wheat and cotton were covering in the course of the 90s not only the major share of irrigated land (in 1990: 64%) but also a growing share (in 2000: 80%). Hence, these two bulk commodities for which nominal international commodity prices (see Table 4.1-1) have depicted a declining trend in most of the 90s effectively benefited from the lack of more efficient water management and thereby are effectively subsidized.
- The effects of sub-optimal efficiencies in domestic agricultural input processing units and in the processing sector represents in the case of some inputs such as fertilizer also a tax on farmers.
- The government remains involved in the price setting procedure of all agricultural inputs which are marketed to farmers through the public distribution system. Particularly, prices of inputs for strategic crops are determined by parastatals according to production and distribution costs.

## 1.15. Credit subsidies<sup>7</sup>

**Agricultural credit operations.** Agricultural producers generally receive credits from the Agricultural Credit Bank the operations of which are restricted to Agriculture. This Bank refinances its lending operations at the Central Bank of Syria. In the past, the Bank has disbursed only limited amounts of long-term loans because of which productivity enhancing investments have been and are effectively rather the exception than the rule. This is documented by the figures in Table 3.6-3 which shows agricultural loan disbursement by duration of loans. The data reveals not only that the major share of loans throughout the 90s has been disbursed as short term loan but also an alarming trend: the share of short term loans increased from about 72% in the beginning of the 90s (1990-92) to 84% at the end of the 90s (1997-99).

The interest rates at which the ACB lends money to various types of agricultural firms was and is fixed as is the one at which other sector Banks are allowed to lend money to firms in the sectors in which they operate. Table 3.6-1 provides an overview of the interest rates applicable in various sectors and for three different types of producers. At first sight it is obvious that the interest rates which agricultural producers have to pay are preferential if compared with those of other sectors, most notably that firms in the industrial sector had to pay. Based on this interest rate differential we will quantify in section 4.2 the amount of credit subsidies.<sup>8</sup> The differential of interest rates at which the Agricultural Credit Bank borrows money from the Central Bank (2.5%) and lends it on to agricultural firms (5.5%) has to be used to cover the operational costs of the Agricultural Credit Bank. Furthermore, Table 3.6-2 provides an overview of the structure of loan disbursement in the agricultural sector. The lion share of agricultural loans is disbursed to private farmers.

## 1.16. Tax policies

In 1991 the Syrian tax system was reformed. Law No. 20 of 1991 introduced a system of progressive income taxes, regulated the profit tax and specified various tax exemptions. The agricultural sector benefits, as in many other countries, from various preferential tax treatments. Some of the taxes the agricultural sector has to pay date back to the Ottoman system. For instance, according to Law No. 794 of 1928 (amended by Law No 25 of 1958) animals are taxes annually per head at the following rates:

- Sheep and goat, 2.25 SYP

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<sup>7</sup> For the following section I have greatly benefited from discussions with the international consultant Parthasarathy who conducted an in-depth study of the rural credit sector in Syria. For a more detailed description of the credit sector issues the interested reader is therefore referred to the respective study (Parthasarathy, 2001).

<sup>8</sup> Any such calculations carry a subjective element as it is difficult to judge what the **undistorted interest rate** in a world without policies would be. However, the 4 percentage point differential is likely to be at the lower end of the scale for various reasons. First, agricultural lenders should be charged a risk premium because of the high degree of insecurity involved in agricultural production; second, all interest rates in Syria are currently fixed and determined by the Central Bank of Syria and are likely to differ from rates which would prevail in a free market environment. For instance, commercial interest rates in neighboring countries such as Lebanon are on average above 10 %. Based on the current conditions of Syria's rural credit system, Parthasarathy calculated in a more detailed way this interest rate differential and arrived at a similar rate which has been applied in this study. Based on his analysis the implicit interest rate subsidy at which farmers can borrow (short-term) loans from the ACB is 3.6 %.

- Camels, 4 SYP
- Cattle, 7 SYP
- Pigs, 11 SYP

Furthermore, sales of agricultural commodities are subject to a value added tax (Law No. 384 and 437 of 1957) at rates of 9-12 %.

## **QUANTITATIVE ANALYSIS OF TAXATION OF AGRICULTURE IN SYRIA BETWEEN 1990 TO DATE**

### **1.17. Estimates of Market Price Support**

**Methodology used for the calculations.** As discussed in Chapter 2 any indirect policies which affect domestic agricultural producer prices are effectively support granted from the market participants, because of which this form of support is called **market price support (MPS)**. There seem to be three policy areas in Syria which affect the level of indirect policy transfers to agricultural producers in Syria:

- First, **import and export policies**. Import tariffs, export taxes, and quantitative constraints increase the difference between the domestic and international agricultural prices.
- Second, **exchange rate policies**. They also directly affect the international prices which have to be expressed in domestic currency.
- Third, the **centrally planned system** because it has a direct effect on domestic prices, particularly in the case of strategic crops.

As discussed in Chapter 2.3 the most frequently method applied for the calculation of the extent of transfers which is associated with these indirect policies is based on the concept of Nominal Protection Coefficients (NPR). The market price support component on a per unit basis is obtained by calculating the difference between the international parity price and the official domestic producer price. By multiplying the per unit price differential between domestic and international commodity prices one gets an impression of the total transfers which are associated with the commodity-specific indirect policies in a given year.

**International commodity prices.** The identification of the most appropriate international price for a specific commodity is difficult because of data availability, quality differences etc. One shortcut that is often used to circumvent these difficulties is to calculate unit values from national trade statistics. However, due to the use of the multiple exchange rate system and the evaluation of imports and exports with the official exchange rate for statistical purposes, unit values carry the potential of being highly distorted.

Therefore, in most cases we used actual international agricultural commodity prices. These are also distorted, for instance, by agricultural policies implemented by the industrialized countries which are big agricultural exporters. Nevertheless the international prices seem to be the best alternative and are used for such calculations for all countries. A summary of international reference prices is presented in Table 4.1.1. These prices stem from various international sources as discussed above (section 2.5).

**Adjustment to the same marketing level and point of sale.** International commodity prices have to be adjusted to the respective country in our case to Syria. Furthermore, agricultural products at the farm level differ from those which are traded in world markets. Therefore, normally costs for packaging, processing and quality differences ought to be taken into account. In cases of agricultural commodities being exported from Syria export parity prices would be calculated; in cases of imported commodities import parity prices would be relevant. **Export parity prices** are derived from f.o.b. (free on board) prices at the major trading point through which the commodity is exported into the respective country. **Import parity prices** are normally derived from c.i.f. (cost, insurance & freight) prices at the major point of entry. In both cases, imports and exports, the most important harbor in Syria is the one of Latakia at the Mediterranean Sea. Furthermore, in a next step, the c.i.f or f.o.b prices at the border are normally adjusted to either the farm gate or a wholesale point which is assumed to be the actual point of competition. Respective import parity prices are obtained by adding various cost components which would be associated with marketing and shipping the commodity from Latakia to the relevant point, normally the location with the highest demand deficit for the respective commodity. For instance, the costs of the domestic importer, the costs for loading the commodity onto trucks, transport costs to respective wholesale points, storage costs and costs for losses as well as potential fees and domestic trader's profits would be included in the calculations. In contrast, export parity prices are obtained by subtracting from the f.o.b. price at the border the costs for stacking, port fees, offloading, and domestic transportation.

While this method would be most adequate it requires a lot of data. An impression of the various data sets needed for such calculations is given by the study of Westlake (2001) in which the respective calculations for Syria are presented for the strategic crops in one year. These calculations by Westlake also indicate that the various cost components which have to be added or subtracted are product-specific. If one attempts to calculate the market price support component over time, one also needs to take into account that these cost components vary over time as well. In fact, particularly in a country like Syria which has experienced substantial structural changes in the course of the 90s it can not be expected that the composition and absolute level of these costs components have been constant over time. This is even more likely as the degree of state interventions in the domestic marketing chain for various agricultural products has also changed substantially in Syria in the 90s because of the gradual reforms that have been implemented already. However, the low availability of respective product-specific data of domestic marketing costs in the course of the 90s for which the calculations are carried out does not allow to deduct the needed information for each year and each product from secondary statistics. Because data on these product- and year-specific marketing margins is missing we propose to systematically estimate these costs for all major commodities in an additional study (Project profile No. 3, in the Appendix).

The lack of the relevant data on marketing margins is a common obstacle to calculating the extent of market price support for agricultural commodities in developing and transition economies. Often available data is not precise and unreliable. Because of such distortions in the domestic marketing and the high transaction costs associated with agricultural marketing in transition economies a group of economists in the USDA suggested a different approach. This method is more straight-forward approach and limits the scope of potential sources of distortions due to flawed data: they neglected these adjustments and directly compare farm-gate prices with either c.i.f. or f.o.b. prices (Liefert et al 1996: 796). The implicit assumption is that the cost of processing and moving domestically produced commodities from the point of production to the point of consumption is generally equal to the cost of adjusting c.i.f or f.o.b prices to the relevant domestic point of price competition (Melyukhina, Qaim and

Wehrheim 1998: 398). Given the wide product coverage and the relatively long time period of our study, we therefore decided to follow the approach suggested by Liefert et al (1996).

**Choice of exchange rates.** As discussed in section 3.3, Syria has used a system of multiple and fixed exchange rates during the 1990s. The official exchange rate has been used mainly for statistical purposes. Agricultural imports and exports were evaluated at different rates. Figure 3.4 indicates that the discrepancy between these exchange rate was not marginal but manifold throughout most parts of the 1990s. Therefore, the choice of exchange rates for converting the international price into local currency will have decisive effects on the results. In accordance with the terms of reference, we chose three different exchange rates for the assessment of the market price support: the official exchange rate, a trade weighted exchange rate, and the neighboring country exchange rate as it prevailed in Beirut. Accordingly, the calculations of market price support for all products will be reported based on each of these exchange rates. Thereby, we will be in a position to highlight the effects of different exchange rates on the levels of market price support and on the evolution of market price support over time.

**Discussion and interpretation of estimated Market Price Support.** Figure 4.1-1 and 4.1-2 provide an overview of the total estimates of MPS which have been associated with indirect policies for major agricultural policies throughout the 90s.<sup>9</sup> Furthermore, Table 4.1-2 to 4.1-4 report the product-specific level of support calculated on the basis of the above mentioned three types of exchange rates of the SYP. The product-specific calculations are not reported directly in printed form but only in electronic form in an Excel-spreadsheet which is an attachment to this report (Ag\_Support\_Syria.xls)<sup>10</sup>.

**Total estimates of MPS and exchange rates effects.** Figure 4.1-1 gives an indication of the effects the various exchange rates of the SYP against the US\$ have had on the estimates of total market price support. Because we systematically compared international and domestic prices in the domestic currency we had to calculate all international prices in Syrian pounds. The lower the exchange rate applied for this step the lower is the respective parity price: Consequently, the lower the exchange rate the higher is the respective gap between international and domestic commodity prices given that domestic prices are affected by agricultural policies. As discussed earlier the official exchange rate has been kept at a low and substantially overvalued level of 11.25 SYP to the US\$ until 2000. Therefore, the total sum of MPS calculated on the basis of the official exchange rate has been highest in the 1990s. In fact, the stability of the official exchange rate indicates that the relative level of MPS in relation to GAO has remained somewhat stable throughout the 1990s. Even though the absolute amount of transfers associated with MPS approximately doubled from an average of 65 billion SYP (1990-92) to about 130 billion SYP (1997-99), nominal gross agricultural output doubled as well, thereby offsetting the increase of MPS in relative terms. This relative stability is somewhat surprising because world market prices have shown strong variations over the same period (Table 4.1-1). The other two lines in Figure 4.1-1 indicate the effects of the exchange rate adjustment: the neighboring country exchange rate (from Beirut) has moved, similarly to the black-market exchange rate, around 50 SYP/US\$ throughout the 90s. If that exchange rate is used for the estimation of the transfers associated with indirect

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<sup>9</sup> The list of products for which the calculations have been possible due to the availability of data can be seen from the commodity-specific results of MPS estimates which are reported in Tables 4.1-2 to 4.1-4.

<sup>10</sup> This Excel-file contains various Tables with product-specific calculations of the MPS component as well as the aggregation of all support components and most of the charts presented in the Appendix. Hence, this file should also be considered as a means of updating the calculations as more precise and more recent data will become available.

agricultural policies it becomes obvious that domestic agricultural prices in the beginning of the 90s have actually discriminated against agricultural producers or in other words agriculture has been taxed in that period. This highlights the ultimate role of the exchange rate in determining not only the level of indirect support but also in determining the competitive position of export-oriented farmers. Furthermore, the gradual devaluation of the trade-weighted exchange rate throughout the 90s highlights another important trend. The more this exchange rate of the SYP has been devalued in the course of the 90s the further the estimates of market price support converges to zero, indicating a reduction in distortions arising from indirect policies. From an economic point of view this is actually good news and indicates that the policy of gradual devaluation of the SYP against the US\$ is in fact the single most important factor in reducing negative distortions for agricultural producers.

**Commodity-specific estimates of MPS.** On top of these aggregated results some commodity-specific observations are worth mentioning. Based on the official exchange rate all commodities but tomatoes were subsidized throughout the 90s (Table 4.1.3). The respective estimates with the trade-weighted exchange rate indicate a much more differentiated picture. The respective results are reported in Table 4.1-2 and in an aggregated form in Figure 4.1-2. It can be seen from this chart that the major strategic crops, namely wheat, barley, and raw cotton have clearly received the highest level of support throughout the 1990s and continue to receive the lion share of indirect support by the end of the 90s. In contrast, some of the more export-oriented strategic crops such as chickpeas and lentils were in some years (e.g. 1996 and 1998) even taxed based on the trade-weighted exchange rate. This result is primarily due to the wide variations in international commodity prices. However, it indicates that by sheltering domestic producers of export-oriented crops in years when world market prices are low the same policies discriminate against potential exporters in years in which world market prices are high. In fact, the results indicate that if there was any taxation of agricultural producers at all it is the export-oriented farmers producing lentils, chickpeas, olive oil, sheep and poultry, or fruits, and, hence exactly those products in which Syria is expected to have a higher comparative advantage than in the production of cereals, raw cotton, or beef. This is even more so if one looks at the commodity-specific calculations of MPS that are based on the neighboring country exchange rate. Because this exchange rate of the SYP against the US\$ has been widely devalued throughout the 1990s it reveals a subsidization of producers of major strategic crops and a taxation of those farmers which produce export crops for the entire period. Hence, these results clearly call for a restructuring of agricultural policies by removing the high level of indirect subsidies for the latter and reducing the degree of taxation of the former.

### **1.18. Estimates of credit subsidies**

Table 3.6-4 provides an overview of the total amount of loans which have been disbursed annually by the Agricultural Credit Bank between 1990 and 1999. The loan disbursements are shown by type of commodity for which the respective production loans have been used. The figures indicate that the biggest share of loans disbursed to agricultural producers is disbursed to production loans for wheat and cotton. Loan disbursements for capital investments has indeed been very low (e.g. tractors and combines) and those for irrigation projects declined substantially.

Table 4.2-1 provides an overview of the amount of implicit subsidized credits according to the short term loan disbursement as it has been shown in Table 3.6-4. Based on the respective annual loan disbursements and the estimated interest rate differential the total amount of

transfers to farmers has been limited throughout the 90. In terms of GAO the share of agricultural credit subsidies was with below 0.5% throughout the 90s much lower than in many industrialized countries. However, the costs of administering this agricultural credit system were not included in these calculations. Hence, the total costs of running the ACB would need to be included as these costs are normally covered by the private banks and part of the cost calculations for interest rates determination. To reduce these costs which are also a burden on the taxpayer the rural credit sector should be liberalized in gradual steps. A more competitive rural financial sector should also help in upgrading the kind of services which are provided to farmers who need credits. In fact, in many industrialized countries former sector-specific agricultural Banks have been privatized completely and the disbursement of subsidized agricultural credit, if any is available at all, is operated through the commercial Bank sector. In such cases the government only carries the costs of the interest rate differential between the commercial interest rate and the subsidized rate.

### 1.19. Estimates of input subsidies

**Methodology.** In the case of input subsidies we also compared the domestic prices farmers have to pay for the inputs with the respective international prices. Because of substantial product and quality differences comparable price series were available for a few fertilizers only. The calculated price differential was then multiplied by the quantity allocated to agricultural producers. It should be clear, that these subsidies are associated with costs for the total economy which have to be born by either the government or the producers of the respective inputs.

**Pesticides.** Pesticides carry basically no subsidy because the highest share of inputs has been imported in recent years. Hence, Syria has been a price taker during all years in the 1990s. As long as importing, distribution and sales of pesticides was restricted to the Agricultural Cooperative Bank and, hence, the state sector a 15 percent premium was charged on average on the import price of pesticides to cover the marketing costs within Syria. Today substantial shares of pesticides are imported by private traders at free market prices. Therefore, the pesticide sector does not carry any obvious subsidies.<sup>11</sup>

**Seeds.** With respect to seeds one can make a distinction between seeds for strategic crops and other seeds. Seeds for strategic crops are provided by the General Organization for Seeds Management (GOSM). Because of the wide variety of seeds it was impossible to calculate the indirect subsidy for seeds for the whole period. Instead, reference is made to another study by Parthasarathy (2000) who estimated the implicit subsidy to farmers associated with seed policies at an annual amount of 2398 Mill SYP.

**Fertilizer.** Today about 60 % of total fertilizer use is produced in Syria while the rest is imported. Fertilizer was distributed to farmers by the Agricultural Cooperative Bank exclusively. In the course of the 1990s the market for fertilizer has been liberalized in consecutive steps.

In the three year period 1991-93 the market price support for fertilizer was estimated for two major types of fertilizers (Urea and Phosphat) at 1092 Mill SYP. This support level dropped in the three year period 1997-99 to an average of 358 Mill SYP (see Table 4.3-1). When

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<sup>11</sup> For more details on markets for agricultural inputs (fertilizer, pesticides, and seeds) the interested reader is referred to the "Agricultural Input Study" which has been prepared in the course of this FAO project by Parthasarathy (2000).

relating these estimates of the market price support associated with input pricing to Gross Agricultural Output the decline becomes even more distinct. Parthasarathy (2000) estimated the total implicit fertilizer subsidy in 2000 at 1390 Mill SYP referring to a wider variety of fertilizers. Additionally, he estimated the net subsidy implicit in the widely government dominated distribution system for fertilizer at 435 Mill SYP.

## **1.20. Budgetary expenditures for agriculture**

**Overview.** Table 4.4-1 and 4.4-2 provide an overview of the administrative and current expenditures and the revenues which are associated with ‘running’ the government system through which general support services are provided to Syria’s agriculture. Table 4.4-1 shows also the breakdown of the general budgetary expenditures for agriculture. Next to the operating costs for the MAAR the maintenance costs for state agricultural establishments were the second most expensive expenditure item, followed by expenditures for reforestation and forest improvement. This has changed in the course of the 90s, when reforestation measures became on average the second most important expenditure item. Given the scarcity of water and the associated problems with desertification the availability of increased financial resources for reforestation seems to be justified. Furthermore, the data indicates that only rather low levels of subsidies have been used for subsidizing agricultural inputs directly via the government budget (e.g. pesticides). Furthermore, the revenues of the Ministry of Irrigation are added.

**Agricultural research and extension.** At the same time it is notable that the agricultural research and extension system receives only very limited financial resources. The economic returns to agricultural research have been evaluated very positively. In many countries which today are major agricultural exporters, among them the US, Germany, France agricultural research has been carried out in a widely dispersed system. Agricultural faculties at Universities, Land Grant Colleges, government-run agencies etc. have assured that technological progress has been very high in the past centuries. While today in many industrial countries private research has become at least equally important, the positive role agricultural research can play in developing an efficient agricultural sector should not be understated. Furthermore, any support granted to the agricultural research system does not fall under the restrictions of the Uruguay-Agreement of the GATT/WTO.

**Revenues and net transfers.** Table 4.4-2 provides some interesting facts about the extent of government revenues from agriculture. The revenues for various taxes (e.g. excise tax on livestock, sugar etc.) are listed as well as the revenues from some trade operations (e.g. export taxes on cotton and tobacco). The published data by the MAAR indicates that the most significant revenue item is on “Services commutations and state leasing operations”. This revenues item mainly relates to the revenues from state owned land.

The comparison of total agricultural revenues with total expenditures by the Ministry of Agriculture and the Ministry of Irrigation would indicate that the system was covering total costs almost in the beginning of the 90s and fully at the end of the 90s. However, it should be noted that information on some relevant expenditure items were not made available for this study. Particularly the total costs which are associated with the maintenance of some agricultural government agencies which are under the supervision of the Ministry of Supply are not reported neither were the costs running the ACB in the course of the 90s.

## 1.21. Consumer subsidies

Official figures on the annual government expenditures used for subsidizing consumer prices for some staple foods is not publicly available or at least not released. Therefore, we attempted to estimate the annual subsidies in a similar way as we calculated the indirect producer subsidies above: we compare the international prices for the respective commodities with the national retail prices adjusted to the same point of sale. However, the available data was not complete and yielded results that were not plausible (see Excel-spreadsheet Ag-Support\_Syria.xls sheet consumer subsidies). Therefore, we do not report the respective estimates here. Whenever the respective data has been entered into the Excel-file the transfers associated with these consumers policies can be seen from the summary table in that file.

In the past decade and today the Syrian government controls the retail price of some major food commodities in order to subsidize food consumers. The major commodities for which such consumer food subsidies are granted are: bread and flour, rice, sugar, vegetable oil and tea. These commodities are considered to be so important for food security of the Syrian populace that they are subsidized with flat rates. Even though the explicit extent of these consumer subsidies is not known, the high quantity of these food items consumed indicate that they make up a significant amount of the total government expenditures. Basically the taxpayer has to finance these food subsidies because of which they constitute a pure form of redistribution.

In the course of the 90s the pressure on the government budget increased because of which the scope of consumer subsidies for food became more and more limited. Subsidies on vegetable oil and tea were discontinued, those for bread (flour) were reduced, and the ones for sugar and rice were restricted by the distribution of food coupons. Coupons allowed for the purchase of a maximum of 1.5 kg of sugar and 0.5 kg of rice per capita and month at the subsidized prices.

**Targeting mechanisms.** Today the major question related to food consumer subsidies seems to be how to replace the general food subsidies to consumers with a well-functioning and efficient system of targeting food aid to the poor. ‘Targeting’ is simply a means of getting more food and food of better nutritional value to groups in need and not to others. Hence, the success of targeting schemes depends on limiting the leakage of program benefits to non-program families. Generally, the leakages will be a function of the size of the economic benefit associated with the consumer subsidies. The higher the subsidy the higher the incentives to misuse. Therefore, it will be essential to carefully design an operational targeting mechanism.<sup>12</sup> The basis for any such targeting mechanism should be a careful assessment of food consumption and expenditure habits. To accomplish this various steps would be mandatory: first, the government has to define a country-specific poverty line. This could be based on single indicators such as average annual per capita income. Additionally, indicators for various social aspects of human life that assist the assessment of the standard of living could be taken into consideration (e.g. the rate of child mortality, the level of education, access to fresh and clean drinking water, or the accessibility of doctors). In fact, the United Nations uses such a combination of economic and social indicators to compile the Human Development Index which serves as an indicator for the level of poverty that prevails in a given country context. Such indicators could be compiled on a regional basis in Syria in order to assess in which governorates most poor households are to be found. Second, an assessment of the absolute and relative poverty level of households in Syria would be mandatory. In an

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<sup>12</sup> A more detailed discussion of targeted food subsidies can be found in Timmer, Falcon, and Pearson (1983).

ideal case such an assessment would include information on the nutritional status, income and expenditures of households and various groups within households (children, pensioners etc.). Such an assessment could be based on secondary data (i.e. from published sources) or on primary data (i.e. surveys of a selected and representative sample of households). Based on the respective assessment the population segments which are in need could be identified. Furthermore, it would enable the identification of the specific nutritional needs of the respective low-income groups.

Once the households which are in need have been identified, various forms of targeting can be relevant: geographic, temporal, or sex and age specific targeting. Particularly, when malnutrition is observed among small children or lactating women, targeted subsidies can be an efficient form of subsidizing these income groups.

### **1.22. Estimates of total transfers to agriculture**

In Chapter 3 we discussed the conceptual framework for assessing the total transfers to agriculture that are associated in a given country and at a given time with the sum of all direct and indirect (agricultural) policies which are operational. Box 1 indicated that the total transfers are made up of the sum of Producer Support Estimates (PSE), General Services Support Estimates (GSSE), and Consumer Support Estimates (CSE). The respective estimates for Syria and the time period 1990 to 1999 are presented in Table 4.6-2. As mentioned before the estimates of CSE are not reported and therefore also not included in these calculations. Based on the data that is available, the results indicate that throughout the 1990s the Market Price Support component has been the major source of transfers to agriculture. Hence, the sum of indirect policies has been associated with significant production incentives for domestic producers. As mentioned before this is not generally the case but instead some producers were even taxed in the 90s. However, what is even more important is the fact that the estimates reveal a trend at least when the total amount of transfers is related to GAO: the relative level of support declined from around 30% in the beginning of the 90s to less than 10 percent at the end of the 90s. Hence, this can be interpreted as the effects of the agricultural policy reforms which have been gradually implemented in the last decade: the gradual liberalization has yielded the expected results and reduced the degree of government involvement into agricultural markets. However, this decline of total transfers does not tell much about the efficiency of agricultural policies nor about the remaining distortions in the agricultural sector because of the various forms of government intervention in the sector.

### **1.23. Implications of the transfers associated with Syria's agricultural policies for the integration into the world trade system**

The development of the transfer levels which have been linked with Syria's agricultural policies in the past could become particularly relevant if Syria decides to further integrate into the global agricultural trading system. One milestone in that process might be the accession to the WTO. In this context it is of utmost importance to understand that each country that accedes the WTO has to liberalise its agricultural policies to some extent only. No country is obliged to completely abolish all support policies. Instead specific reductions in the level of agricultural support have been demanded from each member country of the WTO (currently the WTO has 140 members). The reference point against which this liberalisation had to be

implemented by the member countries at the time the Agreement on Agriculture in the GATT was signed was the three-year-period 1986-89.

As this period is too far in the past, new applicant for WTO membership have to accept a different reference period against which they have to commit themselves to further reduce their agricultural support levels. However, the reference point against which this liberalisation is demanded from each acceding country is normally the three year-period prior to the time when the application for membership has been submitted to the WTO.

This might have implications for the way Syria will proceed with agricultural policy reforms. Why is this so? Because the liberalisation which Syria's agriculture has been and is currently experiencing will not be counted as long as Syria has not officially applied for WTO membership yet! Substantial liberalisation has been achieved for instance by abolishing the export taxes or dismantle the unified import tariff. In the case of the Russian Federation the far-reaching liberalisation that has been associated with the abolition of the central plan, in the early 90s has not been acknowledged by the members of the WTO which has created substantial conflicts in the ongoing accession negotiations which have lasted now for more than seven years already.

The relevant reference point from which on each country has to liberalise its agricultural sector is normally the three-year period before the respective country has applied for WTO membership. Hence, from the point of view of agriculture it would make sense to apply for WTO membership rather sooner than later. Secondly, the WTO does not require a full abolishment of all support policies. Direct transfers to producers which basically are an income support and which have little effects on agricultural trade, for instance, are exempted from reductions.

All this has substantial implications for the further development of Syria's national agricultural policies: while in the medium run Syria might not even need to further reduce the support to agriculture serious consideration should be given to a restructuring of the policy instruments. The trading regime is a good example: the protection granted to specific commodities might not need to be reduced but at the same time the tariff system should be simplified and become more transparent. Non-tariff measures such as quantitative import constraints should be transformed into tariffs.

#### **1.24. Price analysis**

**Development of domestic price indices.** Figure 4.8-1 shows the development of various price indices in the course of the 90s. Three consumer and three producer price indices each are shown. The comparison of these indices reveals some interesting facts about the developments of agriculture's terms of trade: the ratio of the agricultural producer price index to the one for other products indicates if prices developed in favor of agriculture or not. While data for a comprehensive agricultural input price index was not available the one for fuels can be used as the best proxy for the development of agricultural input-output ratios. As can be seen from Figure 4.8-1 this index developed similarly to the PPI for agricultural commodities. Generally, the agricultural PPI developed more favorably than all other indices with the exception of the one for flour.<sup>13</sup> Hence, no increasing price disparity between agricultural

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<sup>13</sup> Flour being the one food product under strictest regulatory control in fact reveals largest upward movements. This might be the result of reductions in consumer support provided for this product as discussed in the previous section.

output and input prices can be revealed from these observations. However, the increased openness of Syria's trade regime and the availability of ever more imported agricultural inputs might contribute to a restructuring in the input-output-relations which at least in the short run might also be associated with more rapidly increasing input prices.

**Market integration and price transmission.** As mentioned above price movements over time between various levels of a commodity market are expected to correspond to each other if the respective market is integrated well. Traders would then try to sell (buy) their products wherever they get the highest (lowest) price. Hence, the activities of such traders would assure the efficiency in markets. Generally one can make the following comparisons between prices:

- Between domestic and international prices for the same commodity.
- Between prices for the same product in different regions (Governorates) within a country.
- Between prices for the same product but at different levels of the marketing chain.

The better the respective prices respond to each other the higher the degree of market integration. The higher the degree of market integration, the higher the efficiency of markets. Hence, in a completely free and liberalized market economy one would expect a high level of market integration. If restrictions in international and interregional (within a country) trade reduce the way market prices can respond to similar structural changes than market integration would be expected to be lower.

Figures 4.8.-2 and 4.8-3 show the price series for some selected products and regions at a weekly frequency in 1998 to 2000. The analysis of the available price series is difficult because of frequent non-reporting for some regions. Therefore we show only some price series which are somewhat complete for the whole time period.<sup>14</sup> Without any further statistical analysis the charts reveal some interesting facts already: The comparison of wholesale prices for lamb meat in five regions of Syria indicates that the weekly prices have fluctuated between a major range of 120 to 200 SYP/kg which constitutes a substantial price band if, in fact, quality differences do not matter. However, the week-to-week variation of prices in single regions has been very limited in some of the regions. For instance, in Tartous the prices for lamb were stable at 200 SYP/kg for quite a long period. Such stability is normally interpreted as an indication for regional governments intervening into the price determination of the respective commodity. At the same time the prices for the same commodity in other regions did not respond to the high price level in Tartous. If regional market integration would be high one would expect traders to buy lamb in regions where the price is low and ship it to Tartous as long as the price differential is bigger than the respective transport costs.

Furthermore, prices for lamb in different markets around the world should be linked with each other via the world market. Hence, in spite of quality differences, even prices for products which are close but not perfect substitutes should reveal similar price movements over time. In fact, if the price series for lamb in Syria are compared with a monthly price series for lamb at the wholesale level in a major US production region, the respective variation of prices in Syria is relatively low. Furthermore, the fact that the range of price movements in the US

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<sup>14</sup> Before carrying out any further cointegration analysis with which relationships between the price series could be revealed the hypothesis of integration needs to be tested against stationarity of all prices. However, because of the gaps in the data series and the lack of variation in most of the regional price series already the tests for integration yielded unsatisfactory results which restricts the potential for further statistical analysis.

market was much lower indicates that this market is more efficient and more competitive. In contrast, this hints at limited market efficiency in Syrian lamb markets.

The weekly retail prices for apples which are shown in Figure 4.8-3 also indicate extreme fluctuations of up to 100% within less than four weeks. These rapid price movements are again indications of strong demand and supply disruptions which might again indicate rather inefficient marketing systems. Furthermore, in spite of Latakia and Tartous being neighboring regions, the prices for apples at the retail level in Latakia are much more stable and actually mostly were at 15, 20, or 25 SYP/kg. If mal-reporting by statisticians can be precluded these time series clearly indicate that the regional government would intervene in retail markets as well. However, no such evidence was reported from any regions in Syria. Therefore, the origin of these low levels of price fluctuations remains unexplained.

### **1.25. Results of the farm-level survey**

**Structure of the survey.** In May 2001 a farm household survey was conducted which contained two parts: part one addressed households expenditures, income sources and levels, land and irrigation issues, production-specific information as well questions on investments, the financial issues of the respective farms and on migration of farm household members. The first part of this survey was designed by Prof. A. Sarris, University of Athens, Greece, and will serve as an input for the project's "Strategy study". The second part of the survey added some additional questions specifically designed to get some insight on agricultural policy questions. The aim of this second part of the survey was to get an evaluation of the past and present agricultural policies by Syrian farmers and of their expectations about the future developments of agricultural policies.

The survey was conducted in two consecutive rounds only one of which was completed by the time the first draft of this report has been completed. The second round will be conducted in June and the results will be reported in the final version of this report. During the first round of field surveys 46 farm households in five governorates (Hassake, Aleppo, Hama, Sweida, and Latakia) were conducted by the staff members of the project centre.

**Sampling.** A total number of 100 (46) households will be included in the survey. Due to the limited size of the survey the aim was to select a sample that is as representative as possible. Therefore farm households from five governorates with rather diverse agro-ecological zones were chosen. Furthermore the villages in each governorate were also selected such that the major agro-ecological zones of each governorate were represented in the sample. Additionally, the production specialization, the size, and the tenure class of the farm were important criteria for the selection of farm households. Agricultural experiment stations in the respective region were helpful in selecting and contacting the respective farms.

**Results of the survey.** In order to get an evaluation of agricultural policies farmers were asked about their subjective point of view on past, present, and future policies (see in Appendix 7.1. for the complete set of questions of the module on Agricultural Policies; and Appendix 7.1, Chapter 4.9 for Tables and Figures which summarize the results of the study). In most cases farmers had a choice to evaluate respective elements of Syria's agricultural policies on a scale between 1 and 5. In some cases, farmers were only asked to answer with 'yes' or 'no'. We will briefly discuss the results of the first round of the survey.

**Questions 1 (Figure 4.9-1).** Question 1 asked the farmers to give their judgement on which types of government subsidies have been of importance for their farm operation in the past. The lower the average value reported in Figure 4.9-1 the higher is the revealed importance of

the relevant policy area from the respondent's point of view. The answers are complementary to the results obtained from the assessment of financial flows in previous sections: input subsidies are said to have been more important than credit subsidies, and among credit subsidies those for investments have been less important than those for variable inputs. Furthermore, farmers are very well aware of the fact that the state experiment stations and the respective consultation on production methods is of great importance for their farm operations.

**Questions 2 - 6 (Figure 4.9-2).** In contrast, farmers did not see a strong negative effect on their farm operations as a result of various government interventions into the sector's operations (Question 2). Answers to question 3 provide only anecdotal evidence of a wide range of fees and taxes farmers have to pay often to local administrations. For instance, some farmers complain that they do not only have to pay the interest rates for credits but on top various fees no matter if they get cash or in kind loans. The most frequently mentioned fee which farmers have to pay is the one on the state operated irrigation system, which as mentioned above, serves to cover the actual maintenance costs of the system. Answers to question 5 indicate that the production constraints which are associated with the production obligations and, hence, the indicative planning method, are not perceived as being very binding. On average farmers believe that their production pattern would not be too different from current production if the government regulations were abolished further. Given the fact that more than 60% and about 50% of respondents were obliged to produce wheat and/or cotton farmers might misjudge the fact that the removal of the production obligation would also be associated with domestic producer prices for these products moving closer to world market prices (see Figure 4.9-3). As the quantitative analysis in one of the previous sections of this study indicated, the market price support component was highest for these two products. Therefore, the answers to question 5 should be interpreted cautiously and rather be seen as an indication of farmers not being aware of the fact that indirect support policies protect them from lower producer prices and therefore constitute the most substantial form of farm subsidization.

**Questions 6-11 (Figure 4.9-2 and Figure 4.9-4).** This is so in spite of the fact that respondents reported in question 6 that on average they were obliged to sell about 60% of their products to government agencies. Being asked for the reasons why they chose state agencies the most frequently chosen answer was that the state agencies paid higher prices than the private sector. This is another indication for the fact that the market price support component is having an effect on the farm level. Even though farmers do not consider it as a form of subsidy they behave rationally by selling their products to the state agencies exactly for that reason. Hence, it is also not surprising that farmers judge the overall effects of government policies rather positively, even though they are not really enthusiastic about the government support provided to them (Question 8). Answers to question 9 support the view that the indicative planning and the mix of policies is not perceived by farmers as restricting their farm operations significantly. Furthermore, it is of interest that in spite of the various agricultural policy reforms that have been implemented in the course of the most recent years, farmers generally believe that the support they received from the government staid more or less similar during the last five years (Question 11).

**Question 12 (figure 4.9-5).** The answers to question 12 are complementary to the answers of question 1. In fact the answers indicate that farmers have a strong preference for those support policies which result in direct monetary transfers (e.g. credit and investment subsidies) rather than support policies which might only pay off in the long run (e.g. training and education). In this respect, farmers in Syria are not different from farmers elsewhere. At the same time, the fact that respondents do not see any significant need to expand support for 'training and

education’ or for ‘consultation methods’ might indicate that these areas are well covered by current practices. However, the fact that farmers do care only little for better market price information might be an indication for a lack of awareness of the relevance of price information in a sector of the economy in which the role of state agencies is continuously declining.

## CONCLUSIONS AND RECOMMENDATIONS

### 1.26. Need for improvement of data and further research

**Farm-level data.** Most of the analysis presented here has been based on secondary data. Primary data collected at the farm-level could support future analysis of this kind further. Many countries around the world have implemented for this and related purposes a network of “test-farms” which are continuously screened with respect to all major input-output operations, state-interventions at the individual farm-level etc. If such a monitoring system were to be implemented it would also become easier to evaluate the effects of future agricultural policy changes on the farm-level. It is important to include farms of all types, particularly small-scale farms, into the analysis in order to also get an understanding of the social effects of the on-going reform process.

**Budgetary expenditures.** It is recommended to shed further light on the costs of administering and supporting the agricultural sector. A detailed assessment of the allocation of the available fiscal resources will be essential for estimating the effects of related policies. Ideally this would be done by annual reports which estimate the agricultural income from various production branches (livestock, crops, fruits etc.) based on the methods as proposed by the System of National Accounts (SNA) by the United Nations. The statistical office of the Commission of the European Union (EUROSTAT), for instance, annually publishes the report “Agricultural income” which provides an overview of the expenditures, direct subsidies, and profits of different farm types in the member states of the EU.

**Macro-economic modeling.** The quantitative analysis provided in this report is based on partial equilibrium analysis only. This refers to the fact, that only the effects of agricultural policy changes on the agricultural sector itself were discussed. The repercussions between agricultural policies, economy-wide developments and macro-economic policy-changes were with the exception of the changes in exchange rates not analyzed quantitatively. The relative importance of the agricultural sector in terms of its GDP and labor force share imply that such links may not be understated. Therefore, and in order to get a better understanding of the linkages between the Syrian macro-economy and the agricultural sector as well as the food industries and all input sectors, the possibility of developing an economy-wide model should be explored. If a computable general equilibrium model would be the choice, one prerequisite would be the compilation of an input-output-table. To be able to address with such a model agricultural policy issues, the agricultural sector should be disaggregated as far as possible (see project profile No. 1 in the Appendix).

## 1.27. General recommendations

As Syria continues with its gradual reform process various strategic issues seem to be important:

- First, when implementing specific agricultural reforms the effects of each specific reform on the level of total support granted to agriculture should be assessed in a quantitative way. This also should include measures which only indirectly have contributed to the support granted to agriculture.
- Second, the implications of such sector-specific reforms for the whole economy should be considered in great detail. For instance, when Syria changes the output prices of agricultural products this has also important implications for the processing industries. The most prominent example where this became obvious is cotton.

## 1.28. Specific policy recommendations

**Agricultural policy objectives.** Governments normally specify various objectives for their national agricultural policies. Often it is difficult to coordinate the various agricultural policy objectives and assure a coherent set of policies. Furthermore, it is obvious that even agricultural policy objectives are not solely determined by economic reasoning but also by political considerations. For instance, during the period of the “Cold War” many small and independent countries in Europe (the former EFTA member states) pursued a policy of national food security because of which the production of staples was subsidized without having any comparative advantage in the respective production area.

**Recommendations:** It is recommended to revise the agricultural policy objectives such that the potential contributions of agriculture to overall growth are used best. Based on this presumption it might be beneficial to redefine the policy objectives such that the exploitation of comparative advantage becomes a more important policy objective.

**Production and consumption subsidies.** The burden on Syria’s taxpayers that is associated with product-specific agricultural policies is particularly significant in the case of such products which receive both production and consumption subsidies. This seems to be the case for wheat and sugar. It is recommended to gradually reduce the production support for both products and move domestic prices closer to parity prices. On the consumption side, the currently prevailing system of general food subsidies for these two staple commodities should be reduced because not only low income but also high income groups benefit from such subsidies. Instead, a targeted food subsidy for low income groups or income groups in particular need are likely to be more efficient.

**Multiple exchange rates.** A multiple exchange rate system has been used for agricultural imports and exports. Imports of agricultural inputs were effectively subsidized by using a highly overvalued exchange rate. This overvalued exchange rate more than compensated for the import tariff levied on these imported inputs. This system has recently been dismantled. Today the official exchange rate is used and import tariffs have been reduced.

**Conclusions:** During the 90s the official exchange has been substantially overvalued. The difference to the black market exchange rate was particularly substantial in the early 90s. The wedge between both exchange rates has diminished substantially. Nevertheless it can be expected that once the exchange rate is fully flexible, the SYP fully convertible, and the capital and current account fully liberalized, further pressure on the exchange rate will arise. Because of consumer preferences for brand-named products from the developed countries

imports are likely to rise in the medium-term more than exports. With respect to the export oriented agricultural sectors in Syria the overvalued exchange rate is likely to be the single most important factor that causes taxation of agriculture. Furthermore, multiple exchange rates and restrictions on the access to foreign currency should be dismantled in order to allow the most efficient traders to enter operations.

**Recommendations:** To merge the exchange rate of the Syrian pound against major western currencies a further gradual devaluation might be mandatory to approach an equilibrium exchange rate. In order to limit negative effects of devaluation such as inflation and pressure on households which rely to a significant extent on imported food commodities, the mandatory devaluation should be implemented in gradual steps.

The access to foreign currencies should be determined by a fully convertible currency and a flexible exchange rate system which is obviously an economy-wide concern. Therefore implications for other sectors have to be taken into account as well.

**Import trade regime.** Syria's import trade regime has been characterized by a wide range of instruments with which a relatively high level of import protection has been achieved. The level of import protection has been low for important food staples, such as flour, sugar, and rice. Various import obligations made the import of food commodities to Syria rather complicated. For instance, linking import and export operations by allowing food imports only as a percentage of foreign currencies earned in export operations increases the administrative costs of the trading system and may keep more efficient exporters/importers out of business. Or the need of each importer of agro-food commodities to get approval by the Ministry of Agriculture. Furthermore, the system of import tariffs seems to be rather inefficient. The fact that a product-specific tariff and a general tariff that increases with the product-specific tariff were levied on food imports made the system less transparent and increases the bureaucracy.

**Recommendations:** Based on the review of import policies and the quantitative assessment of differences between domestic and international prices the following recommendations evolve: It is recommended to subject all future reforms of the import tariff regime to one overall objective: to simplify the food import trade regime and, thereby, increase its transparency and compatibility with international standards. At least four specific policy guidelines could contribute to reach up to this overall objective: 1) Abolishing non-product-specific tariffs and import fees such as the 'general import tariff' completely. Product-specific tariff rates should become the major instrument for import protection and revenues collection. 2) Tarrification of non-tariff barriers to imports by abolishing, for instance, quantitative import constraints (e.g. for fruits and vegetables) or the obligation to export agricultural commodities if one wishes to import food stuffs. This is not to say that the respective import protection ought to be given up all together. Instead the quantitative import constraints should also be replaced by translating the intended level of protection into a product-specific tariff level. The decision on the most appropriate tariff level, or in economic terms the 'optimal' tariff level, is not only an economic but even more so a matter of political objectives and therefore will not be discussed here further. 3) Unification of product-specific import tariffs. The current scheme of product-specific import tariffs for agricultural and food commodities reveals both relatively high tariff peaks and a high level of tariff variation. Both ought to be reduced. In fact, it would simplify the import tariff scheme of Syria substantially if only four or five levels of import tariffs would be defined (e.g. 1; 5; 10; 20 and 30%). Then all imported food items could be classified into the respective tariff groups according to the desired degree of import protection. 4) It is recommended to simplify the bureaucratic and administrative procedures and to gradually transfer all respective duties to Syria's customs office. The

conditions for import and export operations should be clearly specified in the customs code. Then the rule of law should be applied and enforced accordingly. For example, the obligation of each agro-food importer to get approval for imports by the Ministry of Agriculture and Agrarian Reforms should be discontinued.

**Export taxes and general export policies.** In the past, agricultural exports have been subject to a production tax when being exported. In the most recent years there have been various exemptions from such export taxes.

**Recommendations:** The legislation on export taxes levied on agricultural commodities should not be changed from year to year. Ad hoc (year-to-year) changes in export policies which are based on the annual circumstances in specific markets can create insecurity about Syria's trade regime which again is likely to affect the competitiveness of Syria's agricultural products in world markets negatively. To secure niches in world markets a **consistent application of export trade policies** is of utmost importance. Consistency of trade policies is also important with respect to other trade interventions.

**Export operations.** The Ministry of Economics and Foreign Trade has proposed an export strategy which has the potential to pave the way for a more efficient system of export promotion. From an economic point of the proposed measures are useful even though some of them might be conflicting with each other.

**Recommendations.** With respect to agro-food exports Syria's future export promotion program should focus on the removal of existing export constraints, the development of new markets, and in providing support to exporters through a more efficient transport system, improving quality control systems, and by offering international marketing support. Any government programs for export promotion should be checked to be compatible with the respective rules defined by the WTO.

Furthermore, careful attention should be given not to invent any forms of export subsidies! Export subsidies are effectively transferring an economic rent from the exporting country to the importing one. Obviously, there is no need for Syrian taxpayers to finance consumers in other countries.

**Market price support.** In the case of some agricultural products Syria's agricultural policies contribute to differences between domestic and international prices after taking transportation costs and quality differences into account. Such differences are generally labeled with the term "market price support" and can be the result of direct and indirect policy interventions. Therefore, this "market price support" can even occur in cases in which no direct policies such as export taxes are implemented. Furthermore, it is noteworthy that this "market price support" component can be positive in which case it indicates a subsidization of farmers; it also can be negative in which case it indicates an implicit taxation of farmers relative to the world market. The estimates of commodity-specific levels of market price support for various agricultural commodities in Syria indicate one important observation: if there was any taxation of agricultural producers at all it applied to those products for which Syria is expected to have an export potential such as: lentils, chickpeas, olive oil, sheep and poultry, or fruits.

**Recommendations.** The commodity-specific results call for a restructuring of agricultural policies by removing the high level of indirect subsidies for the latter and reducing the degree of taxation of the former. The recently passed Law No. 15 exempts all agricultural exports from the agricultural production tax and, thereby, removes policies which are likely to have contributed to the taxation of export commodities. This reform of trade policies should foster the economic consistency of Syria's agricultural trade policies. Care should be taken to not

only remove direct policies such as production taxes on agricultural exports but also to remove indirect policies which prevent that exports of agricultural commodities is a profitable alternative. In many cases marketing support to agricultural producers could be an efficient form of fostering agricultural exports.

**Credit subsidies.** Agricultural credits has been made available to farmers at a subsidized interest rate by the Agricultural Cooperative Bank. The major share of these credits (70-80%) were short term loans of less than a year which are mostly utilized for buying inputs. In contrast, ACB disbursements of long term credits which could foster the adoption of efficiency enhancing production technologies has been rather the exception than the rule. Therefore, farmers who wish to invest into more expensive capital goods mostly have to rely on credits provided by private merchants.

**Recommendations.** Considering the fact of relatively low overall credit subsidies being made available to farmers well-designed subsidized credit programs for long-term capital investments could become a useful alternative to support structural change in the agricultural sector. Additional subsidized and long-term agricultural credit that would be coupled to capital investments that help to save water have the potential to enhance the efficiency of agricultural production and resource use in Syria.

**Consumer subsidies.** In the past decade the Syrian government subsidized the retail price of some major food commodities such as bread and flour, rice, sugar, vegetable oil and tea. These general subsidies have been gradually reduced with the exception of those for flour, sugar, and rice.

**Recommendations.** It is recommended to further abolish general food subsidies and replace them with targeted food subsidies to consumers who are actually in need. This will reduce the budgetary transfers which are associated with general consumer subsidies and reduce the leakage of such programs. To identify and monitor the consumer groups which are in need of food subsidies in Syria over time, a cross-sectional and representative household survey should be implemented on a regular basis (i.e. a panel). Once, such data is available various forms of targeting can be relevant: geographic, temporal, or sex and age specific targeting. Particularly, when malnutrition is observed among small children or lactating women, targeted subsidies can be an efficient form of subsidizing these income groups.

**Total support estimates.** Based on the data that is available, the results indicate that throughout the 1990s the Market Price Support component has been the major source of transfers to agriculture. This is not generally the case but instead producers of some commodities were also taxed in the 90s. However, what is even more important is the fact that the estimates reveal a clear trend at least when the total amount of transfers is related to GAO: the relative level of support declined from around 30% in the beginning of the 90s to less than 10 percent at the end of the 90s.

**Recommendations.** The assessment of the degree of transfers to agriculture which are associated with direct and indirect (agricultural) policies should be continued. In fact, the significant steps taken in further liberalizing Syria's agricultural trade regime in the year 2000 and 2001 should yield a further reduction of transfers to agriculture. In a next step the focus of government support to agriculture should become policies with which the efficiency of the agricultural marketing system can be enhanced. Furthermore, support policies should attempt to foster the production potential for those crops for which Syria has the highest competitive advantage and not for bulk commodities which can be exported to world markets only at economy-wide losses.

**Price analysis and market integration.** The comparison of wholesale prices for lamb meat in five regions of Syria indicated that the weekly prices have fluctuated within a substantial range but the week-to-week variation of prices in single regions has been very limited in some of the regions. A comparison of lamb prices movements in Syria and in the US hints at limited market efficiency in Syrian markets. The weekly retail prices for apples indicate extreme fluctuations of up to 100% within less than four weeks. These rapid price movements are indications of strong demand and supply disruptions which might again indicate rather inefficient marketing systems. While more detailed statistical analysis of agricultural prices was not possible yet, these few observations hint at relatively weak regional market integration and low degrees of market efficiency.

**Recommendations.** In order to enhance the degree of market integration and price responsiveness between different regions within Syria the government should enhance the means through which price information is made available to all agents engaged in the domestic marketing chain. Better public market information system which provide regularly the knowledge about price levels and movements in all parts of Syria should be helpful in increasing the efficiency of Syria's food marketing system.

## REFERENCES

- CENTRAL BUREAU OF STATISTICS (Office of the Prime Minister of the Syrian Arab Republic): Statistical Abstract (various issues).
- CENTRAL BANK OF SYRIA: Statistical Abstract (various issues).
- DERVIS, K., J. DE MELO, AND S. ROBINSON (1982). *General Equilibrium Models for Development Policy*. New York: Cambridge University Press.
- ELAMIN, N. (1997). Implications of the Uruguay Round of Multilateral Trade Negotiations for Agricultural Policies in Syria. Study prepared for the MAAR.
- LIEFERT, W., D. SEDIK, R. KOOPMAN, E. SEROVA, and O. MELYUKHINA (1996). Producer Subsidy Estimates for Russian agriculture: Estimation and interpretation. *American Journal of Agricultural Economics*, 78(3): 792-798.
- ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT/OECD (2000a): New classification of PSEs, CSEs, and total transfers, Paris.
- OECD (2000b): Agricultural policies in OECD countries. Monitoring and evaluation. OECD, Paris.
- MELYUKHINA, O., M. QAIM, and P. WEHRHEIM (1998): Regional protection rates for food commodities in Russia: Producer and consumer perspectives. *European Review of Agricultural Economics*, 25: 395-411.
- MINISTRY OF ECONOMY AND FOREIGN TRADE (2000): *Export Strategy in Syria*, Damascus.
- PARTHASARATHY (forthcoming): Syria's rural credit system. Study prepared for the *FAO-Project GCP/Syria: Institutional Strengthening and Agricultural Policy*, Damascus.
- PARTHASARATHY (2000): Syria's agricultural input markets. Study prepared for the *FAO-Project GCP/Syria: Institutional Strengthening and Agricultural Policy*, Damascus.

- ROBERTS, M. AND P. WEHRHEIM (2001): Regional Trade Agreements and WTO Accession of CIS countries, *Review of European Economic Policy - Intereconomics*, 36 (6): 315-323, *with Michael Roberts*.
- TIMMER, P., W. FALCON, AND S. PEARSON (1983): *Food Policy Analysis*. A World Bank Publication, Johns Hopkins University Press, Baltimore.
- WEHRHEIM, P. (2000): The role of the agro-food sector in the macro-economy: General equilibrium effects. *In: Wehrheim, P., K. Frohberg, E. Serova, and J. von Braun* (eds.): *Russia's Agro-food Sector: Towards Truly Functioning Markets*. Kluwer Academic Publishers, Boston/Dordrecht/London: 155-79.
- WESTLAKE, M. (2000): *Strategic crops in Syria*. Study prepared for the *FAO-Project GCP/Syria: Institutional Strengthening and Agricultural Policy*, Damascus.

## 7. APPENDIX

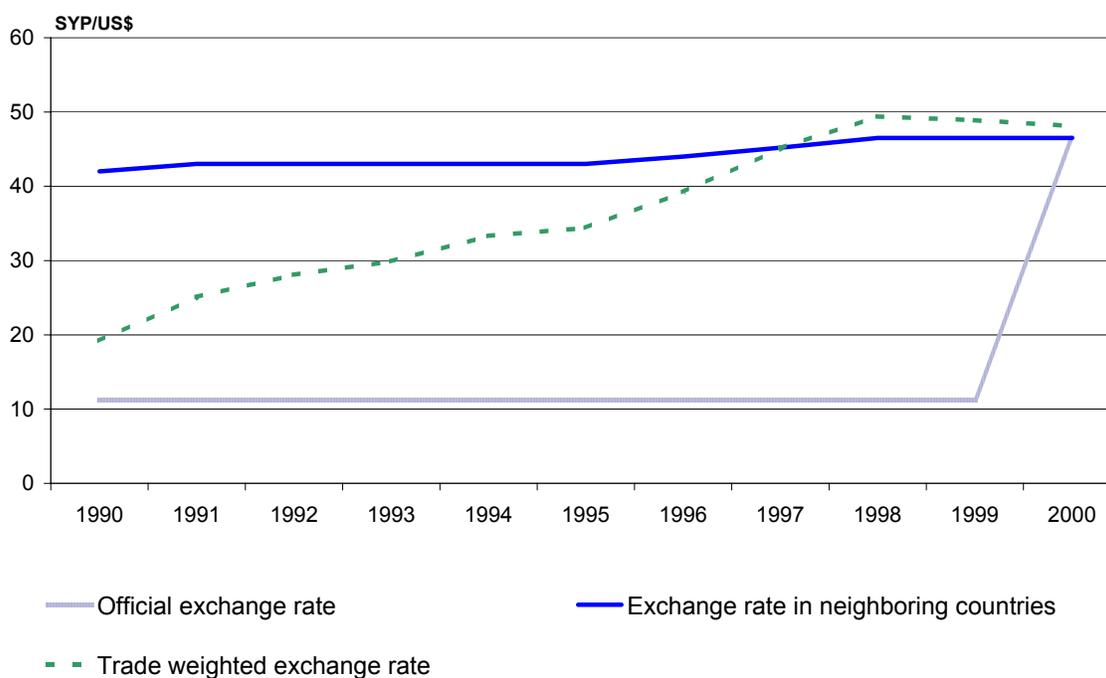
### Tables and Figures

#### STRUCTURED ACCORDING TO THE RESPECTIVE CHAPTERS OF THE REPORT

### CHAPTER 3: QUALITATIVE AND DESCRIPTIVE REVIEW OF POLICIES AFFECTING AGRICULTURAL TAXATION

#### CHAPTER 3.3: EXCHANGE RATE POLICIES

Figure 3.3-1: Exchange rate of the Syrian pound to the Dollar US, 1990-2000



Source: Ministry of Economics and Foreign Trade.

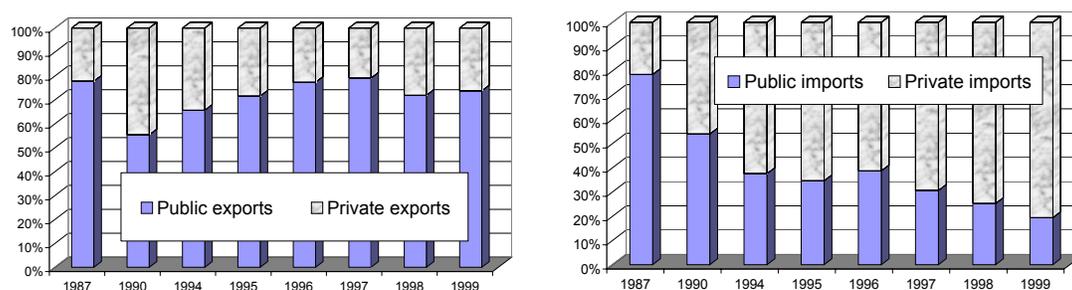
**Table 3.3-1: Development of various exchange rates (ER) of the SYP to the US\$, 1990-2000**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Official exchange rate (ER)	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	46.5
ER for agricultural inputs fertilizer	11.25	11.25	11.25	11.25	43	43	43	45	46.5	46.5	46.6
ER for agricultural inputs pesticides	11.25	11.25	40	40	43	43	43	45.5	46.5	46.5	46.7
ER for agricultural exports	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	46.8
ER for agricultural imports	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	11.25	46.9
Black market ER in Damascus	46.45	45.84	50.48	49.67	51.2	50	51	51	51	51	51
ER in Beirut	46.45	45.84	50.48	49.67	51.2	50	51	51	51	51	51
ER in neighboring countries	42	43	43	43	43	43	44	45.2	46.5	46.5	46.5
Promotion ER	22	22	22	22	22	22	22	22	22	22	22
Trade weighted ER	19.2	25.1	28.1	29.9	33.3	34.4	39.2	45.1	49.4	48.9	48.1

Source: Ministry of Economics and Foreign Trade.

#### CHAPTER 3.4: TARIFF AND NON-TARIFF BARRIERS TO TRADE

**Figure 3.4-1: Share of public and private sector in total Syrian exports and imports (in % of total manufacturing trade), 1987-1999**



Source: Central Bureau of Statistics, 2000.

**Table 3.4-1: Product specific import tariffs for selected agricultural and food commodities**

Item No.	Product	Import tariff in %
17/1	Refined sugar	15
11/1/A	<b>Flour of wheat</b>	1
10/6/A/1	Milled paddy rice for seed	1
10/5/A	Maize	1
8/1/B	Bananas	75
9/2	Tea	7
9/1	Coffee	30
4/3/A	shortening	15
12/1/D	Cake of Soya been	1
4/2/A/1/a	Dry milk	7
7/1/G/1	Potato for sowing	1
7/6/B/1	sweet potato	30
12/1/H	Sesame seed	1
8/1/A/1	Dates	30
1/4/A	Sheep	1
2/1	Fresh , frozen meet	7
4/3/B	Ghee	7
15/7/I	Oil of sunflower seed	7
15/10/A/1	fat and industrial acids	1
15/12	Hydrogenated animal oils	7
16/1	Guts	50
3/1	Fresh , frozen, and dried fish	7
9/3/A	Prepared mate	30
9/3/B	Raw mate	7
16/4/A	Conserved fish (salmon, sardine , and tuna)	1
16/4/B	Caviar	100

Source: Ministry of Economics and Foreign Trade.

**Table 3.4-2: Tariff schedule for the calculation of the progressive ‘unified import tariff’**

Product-specific custom tariffs groups (in %)	‘Unified import tariff’ levied on imports on top of product-specific import tariff
1-6	6
7-14	13

15-29	14
30-49	17
50-74	27
75-99	21
more than 100	32

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Source: Ministry of Economics and Foreign Trade.

**Table 3.4-3: Agricultural and food products which were subject to an export tax at 9-9.5% until 2001**

Nurseries of all varieties	Fennel
Wood	Sugar beet
Chamomile (green and dried) and its products	Graze plants
Berseem and its seeds	Oat
Terebinth	Glue
Vetch	Lentil
Oak	Safflower
Balm and products	Gall oak
Tobacco	Aen jarada
Hay	Coal
Lupine	Alfalfa
Tabacum	Pepper
Bitter vetch	Fuchsia
Rope & cord	Aromatic
Black comin	Hemp husk varieties and its products
Castor- oil plant	Straw mat
Pine	Straw besom, its seeds & products
Wood for fire	Straw sweeper its seeds & products
Fenugreek	Cane(basket and normal) &its products
Chick-peas (green and dried), roasted chick-peas, products thereoff	Tar
Mustard, its seeds and products	Cotton, varieties, seeds, its husk and products
Tulip and its products	Kay and its varieties
Poppy, its seeds and products	Wheat varieties and products
Ammi- visaga, tts seeds and products	Hemp varieties and products
Packthread (core) and its products	Kayaleg and its products
Glue and its products	Linen varieties, its seeds and products
Dakkoka and its products	Caraway and its products
Millet and its products	Vetch varieties, its seeds and products
Maize varieties and its products	Wheat milled with yogurt (kochk )& its products
Sunflower seeds	Ervil and its products
Rice varieties and its products	Kashnin and its products
Lily varieties and its products	Cumin, its seeds and products
Rose mallow and its products	Vigna Nilotic a varieties and its products
Sahlab and its products	Mahaleb

Sumac varieties and its leaves and products	Maras
Sesame- Tahina (sesame paste)	Malesah
Vegetables and fruits nurseries varieties	Noamanah and its products
Cocoon and its products	Orange- flower & rose water varieties, its products and seeds
Barley and its products	Wasak and its products
Barek	Aniseeds and its products

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Source: Ministry of Economics and Foreign Trade.

### CHAPTER 3.5: AGRICULTURAL INPUT SUBSIDIES

**Table 3.5-1: Distribution of irrigated land area in ths. ha and in % of total irrigated land by type of products, 1990-2000**

	1990		1991		1992		1993		1994		1995	
	area	%	area	%								
<b>Wheat</b>	267823	39	300000	42	332000	38	431859	49	515203	52	591701	56
<b>Barley</b>	4624	1	6530	1	7000	1	6902	1	5558	1	5762	1
<b>Cotton</b>	174000	25	173000	24	167150	19	194000	22	205000	21	200000	19
<b>Sugur beet</b>	30000	4	30678	4	35200	4	32888	4	33054	3	32000	3
<b>Vegetable</b>	15153	2	12674	2	14030	2	14611	2	17191	2	17114	2
<b>Sum</b>	491600	71	522882	73	555380	63	680260	77	776006	78	846577	80
<b>Other products</b>	202985	29	195868	27	323660	37	198780	23	215742	22	216046	20
<b>Total irrigated</b>	<b>694585</b>	<b>100</b>	<b>718750</b>	<b>100</b>	<b>879040</b>	<b>100</b>	<b>879040</b>	<b>100</b>	<b>991748</b>	<b>100</b>	<b>1062623</b>	<b>100</b>

	1996		1997		1998		1999		2000	
	area	%								
<b>Wheat</b>	607116	55	666560	57	696500	57	714800	57	749253	62
<b>Barley</b>	4859	0	2776	0	3500	0	3932	0	4200	0
<b>Cotton</b>	214766	20	220000	19	230000	19	250000	20	220000	18
<b>Sugur beet</b>	30000	3	27800	2	28000	2	30500	2	54399	5
<b>Vegetable</b>	17541	2	25583	2	30968	3	27960	2	24399	2
<b>Sum</b>	874282	80	942719	81	988968	81	1027192	82	1052251	87
<b>Other products</b>	221579	20	218120	19	236785	19	227121	18	156507	13
<b>Total irrigated</b>	<b>1095861</b>	<b>100</b>	<b>1160839</b>	<b>100</b>	<b>1225753</b>	<b>100</b>	<b>1254313</b>	<b>100</b>	<b>1208758</b>	<b>100</b>

Source: MAAR.

## CHAPTER 3.6: CREDIT SUBSIDIES AND INFLATION

**Table 3.6-1: Overview of interest rates<sup>1)</sup> (in %) for short-, medium-, and long-term loans at which Syria's banks lend money to various types of firms in specific sectors of the economy**

	Short-term	Medium-term	Long-term
<i>Agricultural sector</i>			
Public firms		4	4
Cooperatives	4 to 6		4
Private firms	5.5 to 7.5		5.5
<i>Commercial trade operations</i>			
Public firms	2.5 to 7.5		no
Private firms	7.5-9		no
<i>Industrial sector</i>			
Public firms	7.5		8
Cooperatives	7.25		7.5
Private firms	10		9.5
<i>Construction sector</i>			
Public firms	5.5		6
Cooperatives	6		6.5
Private firms	7 to 9		7.5 to 9

Note: 1) Interest rates for various types of loans may vary due to the specific circumstances of the loan, such as the collateral which is offered and the general risk evaluation of the loan.

Source: Central Bank of Syria, 2001.

**Table 3.6-2: Overview of agricultural loan disbursement by ACB (in Mill SYP) to various types of firms, 1990-1999**

	Public firms	Cooperatives	Private firms	Total
1990	123	3963	4521	8607
1991	130	5393	6158	11681
1992	127	5717	7474	13318
1993	93	5794	7650	13537
1994	109	6552	7719	14380
1995	265	7055	8120	15440
1996	204	6930	7926	15060
1997	283	6065	7050	13398
1998	218	5600	6781	12599
1999	191	4556	5475	10222

Source: Central Bank of Syria.

**Table 3.6-3: Overview of agricultural loan disbursement by ACB (in Mill SYP) according to the duration of loans<sup>1)</sup>, 1990-1999**

	Short term	Medium term	Long term	Total
1990	6556	1768	283	8607
1991	8042	3430	209	11681
1992	9632	3541	145	13318

1993	10582	2829	126	13537
1994	11480	2776	124	14380
1995	12523	2671	246	15440
1996	12506	2295	259	15060
1997	11134	2012	252	13398
1998	10552	1869	178	12599
1999	8640	1396	186	10222

Note: 1) Short-term loans are provided for sales of inputs and have to be paid back after the harvest. Medium-term loans range between 1-5 years. Long-term loans are granted for five years and more.

Source: Central Bank of Syria.

**Table 3.6-4: Disbursement of short term loans disbursed by ACB in Mill. SYP and in current prices for specific purposes, 1990-1999**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Wheat	2549	2862	4147	5008	5022	4952	5120	4369	3618	2676
Barley	585	306	479	424	288	175	262	194,5	127	120
Lentil& chickpeas	79	73	135	156	108	66	51	52	53	21
Various cereals	332	714	443	306	741	926	933	854	775	567
Fodder crops	71	221	44	242	317	411	361	214	67	254
Cotton	1632	1934	2496	2527	2542	3110	3110	3282,5	3455	3838
Industrial crops	162	231	325	366	428	414	386	373	360	360
Vegetable	348	440	503	411	466	520	329	458	586	400
Olives	304	373	311	374	333	462	453	408,5	364	326
Citrus Fruits	46	50	40	36	46	87	60	47	34	17
Apples	45	37	28	28	41	38	35	21,5	8	4
Grape	41	11	48	32	30	67	24	30	35	7
Various trees	256	225	272	235	392	533	521	545	570	570
Poultry	164	250	202	211	285	419	384	368	353	286
Cows	44	50	61	53	82	142	189	212	236	162
Sheep	118	362	147	49	80	52	70	53	36	46
Various Animals	32	38	25	41	53	60	70	78	87	64
Irrigated projects	1329	2704	2872	2020	1571	1292	1076	803	531	513
Land improvement	86	40	148	147	187	275	302	314	327	181
Other infrastructure	18	32	74	113	152	151	168	133	99	52
Green Houses	301	627	348	510	807	865	742	626	510	475
Tractors	12	4	11	82	299	296	323	313	304	231
Harvestors	6	4	1	0	2	6	9	4	0	0
Agric. machinery	47	93	158	166	108	121	82	73	64	52
Total	8607	11681	13318	13537	14380	15440	15060	13830	12599	11222

Notes: Data for 1997 are based on an average of 1996 and 1998 because the respective data for 1997 was not available.

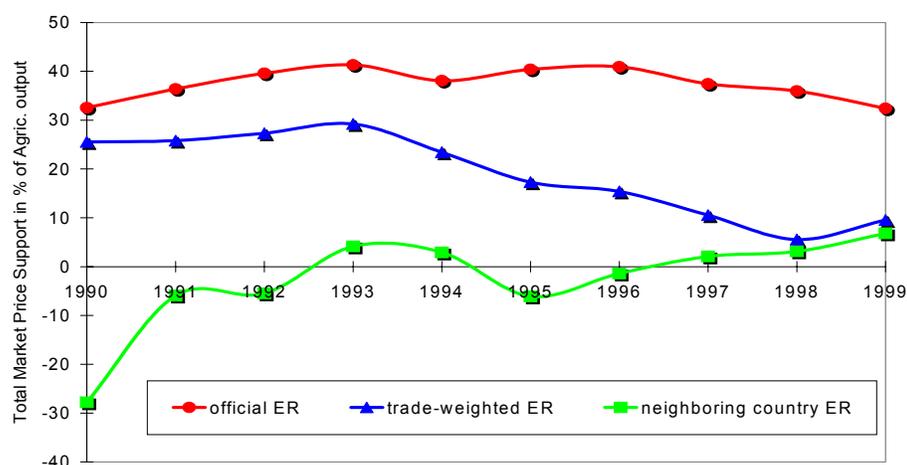
Source: Data on loan disbursement from Central Bank of Syria.



**CHAPTER 4: QUANTITATIVE ANALYSIS OF TAXATION OF AGRICULTURE IN SYRIA BETWEEN 1990 TO DATE**

**CHAPTER 4.1: ESTIMATES OF MARKET PRICE SUPPORT**

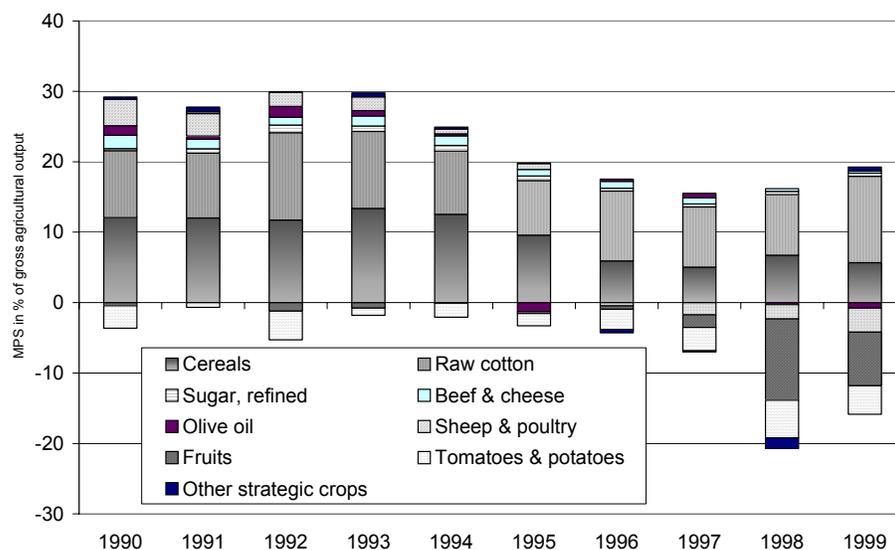
**Figure 4.1-1: Syria's total Market Price Support (MPS) associated with indirect agricultural policies and calculated with the official, a trade-weighted, and the neighbouring country exchange rate (Beirut). MPS is presented as a percentage of gross agricultural output (GAO) at constant producer prices, 1990-1999**



Notes: Total MPS is based on calculations for all products for which results are reported in Table 4.1-2 to 4.1.4. Due to the lack of data some product-specific calculations for 1999 are either preliminary or not available at all.

Source: own calculations based on data from MAAR and various international sources.

**Figure 4.1-2: MPS for various of Syria's agricultural commodities calculated with a trade-weighted exchange rate as a percentage of gross agricultural output at constant producer prices, 1990-1999**



Source: own calculations based on data from MAAR and various international sources.

**Table 4.1-1: International commodity prices in US\$/t for the calculation of Market Price Support, 1990-1999**

	Point of competition <sup>1)</sup>	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001 <sup>P</sup>	Source
Durum wheat	F.O.B, US Gulf Port	144	136	156	149	159	185	215	166	133	119	120	125	Eurostat; OECD
	F.O.B, US Gulf Port	137	129	152	141	150	177	207	160	126	112	114		USDA
Soft wheat	C.I.F Rotterdam	106	79	92	98	104	136	168	145	116	140	140		Eurostat
	F.O.B, US Gulf Port	120	127	146	138	142	169	188	146	113	98	99		USDA
Flour		250	250	250	250	250	250	250	250	250	250	250		
Barley	C.I.F Rotterdam	95	71	77	73	67	115	148	127	105				Eurostat
Rice	C.I.F Rotterdam	279	304	277	250	292	339	350	314	313	210	242	251	Eurostat; OECD
Raw cotton	F.O.B, US Gulf Port	1224	1194	860	894	1132	1531	1383	1522	1276	1077	950		Eurostat
Sugar, refined	London	235	232	219	268	293	307	270	268	204	250	260		Eurostat
	US Gulf	277	200	201	222	268	297	270	266	214				USDA
Chickpeas	Latakia, unit value	621	747	874	270	389	903	619	746	874	271	389		
Lentils	Latakia	688	278	548	465	440	475							Elamin
Tobacco	Latakia, unit value	580	313	639	549	786	566	147	602	587	442			
Apples	Spain	750	882	221	365	467	403	343	312	428	450	480		Eurostat
Apricots	Spain	575	728	812	566	697	825	783	832	1087				Eurostat
Oranges <sup>2)</sup>	Greece	327	368	312	409	485	482	324	310	294	281			Eurostat
	fob Latakia	450	589	600	660	647	560							Elamin
Lemons	Greece	500	396	334	289	368	356	381	357	312				Eurostat
Tomatoes <sup>2)</sup>	Spain	550	420	351	307	433	369	356	458	572	491			Eurostat
Potatoes	Germany	106	121	88	56	134	270	91	71					OECD
Olive oil	Cif Latakia	2301	2008	1899	2067	2443	3592	2765	2012	2412	2605			Eurostat, OECD
	Syria	1650	2400	2400	2700	3000	3000							Elamin
Sheep meat	Latakia	3915	3915	3335	4205	4930	4205							Elamin
Sheep choice	prime US East Coast	2678	2587	2903	3174	3254	3603	3915	3939	3456	3454	3690	3480	USDA; OECD
Beef	Latakia	2300	1980	2100	1566	1957	2222							Elamin
Beef, cow	US Gulf	1259	1236	1129	1245	1064	861	776	813	946	999	1024		USDA
Beef, cow&veal	Hungary	1445	1256	1363	1713	1897								
Cheese	Latakia, unit value	1248	851	378	473	647	695	680	766	575	767			

Milk	New Zealand	122	129	144	138	147	184	191	170					OECD
Poultry	Latakia	1550	1550	1550	1320	1250	1550							Elamin
	EU	1320	1288	1474	1364	1452	1254	1406	1358	1390	1280	1280		OECD
Strawberries	US Gulf	1791	1699	2064	1756	1835	1913	1807	2083	2174	2028	1978		USDA
Rice	Cif Latakia	335	394	348	400	366	412							Elamin

Notes: 1) empty cells indicate that respective prices are not available. 2) Internat. price for 1999 is the minimum and preferential entry price at which Morocco is allowed to export the respective product to the EU (see Coque 2001, p.41).

Source: Data from EUROSTAT, OECD, USDA, Elamin (1997).

**Table 4.1-2: Commodity-specific total amount of MPS calculated with a trade-weighted exchange rate, 1990-2000, in Mill SYP**

Name of product	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Durum wheat	in Mill. SYP	10460	11542	13723	16025	16751	15407	10267	8711	14107	9583	0
Soft wheat	in Mill. SYP	1358	1698	2164	2560	4024	3811	4455	4296	7253	4258	0
Barley	in Mill. SYP	2999	4290	4572	6416	5975	3926	2463	1521	1854	3077	1523
Raw cotton	in Mill. SYP	11691	13379	21616	20381	19159	18729	28752	24616	29629	36563	50254
Sugar, refined	in Mill. SYP	3256	8364	17070	13148	15594	13992	11165	11242	14215	12759	10898
Chickpeas	in Mill. SYP	57	-103	-631	437	76	-763	-295	-933	-2147	132	-60
Lentils	in Mill. SYP	-147	252	-74	-8	-105	-382	-2582	-519	-4053	182	318
Tobacco	in Mill. SYP	450	780	857	608	606	1270	1433	1038	965	1412	0
Apples	in Mill. SYP	-343	-2161	1933	654	292	863	2283	860	-2064	-1932	-3381
Apricots	in Mill. SYP	-141	110	-580	-428	-49	-128	-215	-548	-2205	-2172	0
Oranges	in Mill. SYP	158	152	405	134	527	-799	969	-931	-2109	-2179	0
Lemons	in Mill. SYP	245	430	448	799	555	568	1302	472	391	0	0
Tomatoes	in Mill. SYP	-2606	-2657	-2757	-1018	-3105	-2560	-2940	-5988	-12478	-11365	0
Potatoes	in Mill. SYP	-1310	1643	-4331	-896	-1107	-1654	-5368	-3592	-5883	-706	0
Olive oil	in Mill. SYP	1681	638	2669	1438	639	-3039	900	1759	-963	-2334	0
Sheep meat	in Mill. SYP	3778	4191	2999	2512	434	2048	-1499	-4788	-6146	-8868	0
Cheese	in Mill. SYP	415	556	820	846	705	706	813	706	81	633	0
Beef	in Mill. SYP	1469	1522	1424	1537	1911	2330	2659	2786	2254	2124	0
Poultry	in Mill. SYP	851	469	530	1117	1010	-44	144	-209	-775	-1704	0
<b>Total sum of MPS</b>	<b>in Mill. SYP</b>	<b>34318</b>	<b>45094</b>	<b>62857</b>	<b>66263</b>	<b>63894</b>	<b>54282</b>	<b>54706</b>	<b>40499</b>	<b>31927</b>	<b>39464</b>	<b>59552</b>
<b>MPS in % of gross ag. output</b>	<b>in %</b>	<b>28</b>	<b>31</b>	<b>36</b>	<b>35</b>	<b>30</b>	<b>22</b>	<b>19</b>	<b>14</b>	<b>9</b>	<b>13</b>	<b>n.a.</b>
<b>Gross agricultural output in current producer prices</b>	<b>in Mill. SYP</b>	<b>122861</b>	<b>145717</b>	<b>174360</b>	<b>186683</b>	<b>213451</b>	<b>241508</b>	<b>290272</b>	<b>288384</b>	<b>344709</b>	<b>298359</b>	<b>n.a.</b>

Notes: 1) Due to the lack of data some product-specific calculations for 1999 and particularly for 2000 are either preliminary or not available at all.

Source: Data from MAAR.

**Table 4.1-3: Commodity-specific total amount of MPS calculated with the official exchange rate, 1990-2000, in Mill SYP**

Name of product	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Durum wheat	in Mill. SYP	12541	15447	20760	24796	27469	30194	28422	20108	27679	16817	0
Soft wheat	in Mill. SYP	1567	2006	2729	3399	5486	6145	9383	9227	13552	9987	0
Barley	in Mill. SYP	3684	5370	6085	8712	8396	8743	9546	5911	5455	3165	1525
Raw cotton	in Mill. SYP	5434	7457	10475	10275	10799	13289	19350	26109	26330	24662	17019
Sugar, refined	in Mill. SYP	4091	10590	22385	19604	25458	24447	18832	21826	24126	25982	11415
Chickpeas	in Mill. SYP	236	182	455	715	293	355	496	554	674	426	-20
Lentils	in Mill. SYP	459	449	369	828	1043	1265	989	922	981	577	347
Tobacco	in Mill. SYP	510	850	1110	757	854	1577	1524	1506	1483	1823	0
Apples	in Mill. SYP	910	532	3004	2334	2711	3056	5304	4791	4003	3051	-3134
Apricots	in Mill. SYP	195	538	306	400	567	308	1222	309	328	328	0
Oranges	in Mill. SYP	602	939	938	1414	3008	1743	3625	1242	2367	1694	0
Lemons	in Mill. SYP	414	723	667	999	1068	976	2103	1028	1201	0	0
Tomatoes	in Mill. SYP	-726	-163	86	1252	960	1079	1125	328	-366	-78	0
Potatoes	in Mill. SYP	233	2363	-640	1047	1732	1836	385	1839	2737	2160	0
Olive oil	in Mill. SYP	3252	1724	5963	3757	6020	4017	10685	7081	12363	5523	0
Sheep meat	in Mill. SYP	6247	8739	8595	8043	1312	13106	14292	15169	14351	14388	0
Cheese	in Mill. SYP	605	830	949	1041	1028	1122	1350	1517	161	1720	0
Beef	in Mill. SYP	1805	2105	1987	2227	2665	3044	3570	3986	3860	3955	0
Poultry	in Mill. SYP	1587	1783	2704	3010	3086	3019	3360	3988	4263	3633	0
<b>Total sum of MPS</b>	<b>in Mill. SYP</b>	<b>43646</b>	<b>62463</b>	<b>88926</b>	<b>94610</b>	<b>103954</b>	<b>119322</b>	<b>135562</b>	<b>127439</b>	<b>145549</b>	<b>119813</b>	<b>27152</b>
<b>MPS in % of gross ag. output</b>	<b>in % of GDP</b>	<b>36</b>	<b>43</b>	<b>51</b>	<b>51</b>	<b>49</b>	<b>49</b>	<b>47</b>	<b>44</b>	<b>42</b>	<b>40</b>	<b>n.a.</b>
<b>Gross agricultural output in current producer prices</b>	<b>in Mill. SYP</b>	<b>122861</b>	<b>145717</b>	<b>174360</b>	<b>186683</b>	<b>213451</b>	<b>241508</b>	<b>290272</b>	<b>288384</b>	<b>344709</b>	<b>298359</b>	<b>n.a.</b>

Notes: 1) Due to the lack of data some product-specific calculations for 1999 and particularly for 2000 are either preliminary or not available at all.

Source: Data from MAAR.

**Table 4.1-4: Commodity-specific total amount of MPS<sup>1)</sup> calculated with the neighboring country exchange rate<sup>2)</sup>, 1990-2000, in Mill SYP**

Name of product	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Durum wheat	in Mill. SYP	3329	5694	4375	6727	8051	5443	2602	6725	13538	9179	0
Soft wheat	in Mill. SYP	641	1236	1414	1670	2838	2239	2375	3437	6989	3938	0
Barley	in Mill. SYP	650	2672	2563	3983	4010	680	-528	756	1703	3073	1519
Raw cotton	in Mill. SYP	-3024	-995	7574	8274	7549	3482	15130	13426	25817	32890	45430
Sugar, refined	in Mill. SYP	394	5031	10010	6304	7587	6946	7928	9397	13799	12021	9961
Chickpeas	in Mill. SYP	-557	-531	-2073	142	-99	-1517	-629	-1193	-2265	116	-133
Lentils	in Mill. SYP	-2225	-41	-662	-894	-1038	-1492	-4090	-770	-4264	160	267
Tobacco	in Mill. SYP	242	674	520	449	405	1064	1394	957	944	1389	0
Apples	in Mill. SYP	-4639	-6193	512	-1126	-1671	-615	1007	175	-2318	-2210	-3830
Apricots	in Mill. SYP	-1290	-532	-1756	-1306	-548	-422	-821	-697	-2312	-2312	0
Oranges	in Mill. SYP	-1366	-1026	-304	-1222	-1486	-2511	-153	-1310	-2297	-2395	0
Lemons	in Mill. SYP	-333	-7	156	587	138	293	964	375	357	0	0
Tomatoes	in Mill. SYP	-9051	-6392	-6533	-3425	-6405	-5012	-4656	-7089	-12986	-11994	0
Potatoes	in Mill. SYP	-6598	565	-9235	-2954	-3411	-4005	-7797	-4539	-6245	-866	0
Olive oil	in Mill. SYP	-3705	-987	-1705	-1020	-3729	-7794	-3231	832	-1522	-2772	0
Sheep meat	in Mill. SYP	-4687	-2619	-4433	-3351	-278	-5403	-8166	-8266	-7006	-10165	0
Cheese	in Mill. SYP	-237	146	649	640	443	425	586	565	77	573	0
Beef	in Mill. SYP	315	648	677	807	1299	1849	2275	2577	2186	2022	0
Poultry	in Mill. SYP	-1672	-1500	-2358	-889	-675	-2109	-1213	-940	-986	-2002	0
<b>Total sum of MPS</b>	<b>in Mill. SYP</b>	<b>-33813</b>	<b>-4157</b>	<b>-607</b>	<b>13394</b>	<b>12979</b>	<b>-8459</b>	<b>2979</b>	<b>14416</b>	<b>23210</b>	<b>30645</b>	<b>53213</b>
<b>MPS in % of gross ag. output</b>	<b>in % of GDP</b>	<b>-28</b>	<b>-3</b>	<b>0</b>	<b>7</b>	<b>6</b>	<b>-4</b>	<b>1</b>	<b>5</b>	<b>7</b>	<b>10</b>	<b>n.a.</b>
<b>Gross agricultural output in current producer prices</b>	<b>in Mill. SYP</b>	<b>122861</b>	<b>145717</b>	<b>174360</b>	<b>186683</b>	<b>213451</b>	<b>241508</b>	<b>290272</b>	<b>288384</b>	<b>344709</b>	<b>298359</b>	<b>n.a.</b>

Notes: 1) Due to the lack of data some product-specific calculations for 1999 and particularly for 2000 are either preliminary or not available at all. 2) Exchange rate in Beirut.

Source: Data from MAAR.

## CHAPTER 4.2: ESTIMATES OF CREDIT SUBSIDIES

**Table 4.2-1: Indirect subsidies associated with disbursement of short term loans in Mill. SYP (in current prices) and in percent of agricultural GDP, 1990-1999**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Wheat	102	114	166	200	201	198	205	175	145	107
Barley	23	12	19	17	12	7	10	8	5	5
Lentil& chickpeas	3	3	5	6	4	3	2	2	2	1
cotton	65	77	100	101	102	124	124	131	138	154
Olives	12	15	12	15	13	18	18	16	15	13
Citrus Fruits	2	2	2	1	2	3	2	2	1	1
Apples	2	1	1	1	2	2	1	1	0	0
Poultry	7	10	8	8	11	17	15	15	14	11
Cows	2	2	2	2	3	6	8	9	9	6
Sheep	5	14	6	2	3	2	3	2	1	2
Loans for other purposes	122	215	211	187	222	237	213	193	173	0
<b>Total</b>	<b>344</b>	<b>467</b>	<b>533</b>	<b>541</b>	<b>575</b>	<b>618</b>	<b>602</b>	<b>553</b>	<b>504</b>	<b>449</b>
In % of agricultural GAO	0,28	0,32	0,31	0,29	0,27	0,26	0,21	0,19	0,15	0,10

Notes: Data for 1997 are based on an average of 1996 and 1998 because the respective data for 1997 was not available. Calculation of subsidized credit amount is based on a four percent differential between interest rates farmers pay and the one other private firms have to pay in Syria, for instance, in the industrial sector (see Table 3.6-1).

Source: Data on loan disbursement (see Table 3.6-4) from Central Bank of Syria.

## CHAPTER 4.3: ESTIMATES OF INPUT SUBSIDIES

**Table 4.3-1: Market Price Support for three types of fertiliser in Mill. SYP (in current prices), 1990-2000**

Summary results for three types of fertilizer <sup>1)</sup> :	1990 <sup>2)</sup>	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total indirect subsidies (trade weighted ER)	0	522	659	2095	1073	705	418	476	498	101
Total indirect subsidies (neighbouring countries ER)	0	-761	-214	806	550	346	216	470	634	168
Total indirect subsidies (official ER)	0	1515	1647	3930	2262	1672	1595	2237	2286	1150

Notes: 1) Fertiliser for which calculations of market price support was possible: Urea (46% N), Triple Super Phosphat, and Potassium Sulphat. 2) Whenever data is not available we use '0' instead of 'not available' for computational reasons. Data was not complete for all three types of fertilisers for the whole period

Source: Data from TAFCO.



## CHAPTER 4.4: BUDGETARY EXPENDITURES

**Table 4.4-1: General budgetary expenditures by MAAR and of the Ministry of Irrigation for various general support items in Mill. SYP (current expenditures), 1990-2000**

	1990	1995	1996	1997	1998	1999	2000	Percent of all non-
<b>Budgetary expenditures by MAAR in Mill.</b>								
Agricultural research	76	237	309	329	335	301	470	8,1
Extension services	56	90	89	90	105	91	158	2,6
Soils classification	12	42	39	39	44	34	43	0,8
Community control	36	95	108	146	143	137	154	3,0
Fruit Seedlings	166	214	290	248	259	251	330	6,1
Reclamation projects	294	570	843	957	1011	879	2158	31,7
Forestation projects	211	398	688	576	769	619	849	15,3
Veterinary care	32	79	76	61	64	53	100	1,6
BADIA (dessert)	239	240	230	256	296	256	433	7,2
Rural roads	0	327	548	792	844	502	750	13,1
Arab horses breeding	0	66	43	45	24	23	21	0,5
Bees and honey	28	29	32	35	37	32	28	0,6
Rain evoking	0	24	23	29	26	26	18	0,5
Fertilizers use	0	0	27	36	40	22	35	0,6
State agricultural	367	354	460	410	302	335	322	6,9
Real estate	57	50	61	63	75	65	75	1,5
Total of non-operating	1574	2815	3866	4112	4374	3626	5944	100,0
Current expenditure	884	1701	1717	1798	1835	1883	n.a.	
Total	2458	4521	5590	5922	6232	5538	5957	
<b>Budgetary expenditures by the Ministry of Irrigation, in million SP</b>								
Central department	2546	5408	5813	6722	6956	6389	5586	
Reclamation	2062	6352	5320	7321	6433	4822	6673	
Total	4608	11761	11343	14065	13389	11346	12413	
<b>Sum of budgetary expenditures of MAAR and Ministry of Irrigation together</b>								
Total	7066	16281	16934	19987	19621	16884	18369	
In percent of all govt.	11,4	10,0	9,0	9,5	8,3	6,6	n.a.	
In percent of GAO	5,8	6,7	5,8	6,9	5,7	5,7		

Source: MAAR, 2001

**Table 4.4-2: Budgetary revenues by Ministry of Agriculture and Agrarian Reforms and of the Ministry of Irrigation for various revenue items in Mill. SYP, 1990-1999<sup>a)</sup>**

	1990	1995	1996	1997	1998	1999
Irrigation fees	40	55	60	90	012	012
Excise tax on livestock	25	15	15	15	20	20
Excise tax on sugar	60	75	75	75	90	100
Excise taxes on tobacco	350	650	800	800	650	800
Tax on agricultural production	400	1200	1500	1000	90	900
Duties on cotton exports	130	750	1000	1000	1000	1000
Excise taxes on hunting, fishing & vessels	2	2	2	2	2	2
Revenues of state land	60	346	350	350	400	425
Agricultural budget surplus	205	176	273	212	234	180
Liquidity surplus	75	145	145	162	165	148
Total Agricultural revenues	4013	10599	16964	22280	22717	22978
Agric. Revenues as percent of total public revenues	6,5	6,5	9,0	10,6	9,6	9,0
Agric. Revenues as percent of GAO	3,3	4,4	5,8	7,7	6,6	7,7

Note: a) Data for 2000 was not available yet.

Source: MAAR, 2001

## CHAPTER 4.6: ESTIMATES OF TOTAL TRANSFERS TO AGRICULTURE

**Table 4.6-2: Estimates of transfers associated with direct and indirect agricultural support policies in Syria in Mill. SYP and in percent of Gross Agricultural Output (GAO), 1990-1999<sup>a)</sup>**

	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Gross agricultural output (GAO) in current in Mill. SYP producer prices</b>											
		122861	145717	174360	186683	213451	241508	290272	288384	344709	298359
<b>Producer Support Estimates (PSE)</b>											
<b>Market price support for Syria's major agricultural commodities calculated with different exchange rates</b>											
<b>Sum of MPS, trade weighted ER</b>	in Mill. SYP	34318	45094	62857	73881	63894	54282	54706	40499	31773	39862
<b>Sum of MPS, official ER</b>	in Mill. SYP	43646	62463	88926	103982	103954	119322	135562	127439	145514	119904
<b>Sum of MPS, neighboring country ER</b>	in Mill. SYP	-33813	-4157	-607	19151	12979	-8459	2979	14416	23052	31060
<b>Other indirect support</b>											
<b>Credit subsidies</b>	in Mill. SYP	344	467	533	541	575	618	602	553	504	449
<b>Input subsidies</b>	in Mill. SYP	0	522	659	2095	1073	705	418	476	498	101
<b>Total PSE, trade weighted ER</b>	in Mill. SYP	34662	46083	64049	76517	65542	55605	55727	41528	32775	40412
<b>Percentage PSE</b>	in % of GAO	28	32	37	41	31	23	19	14	10	14
<b>General Services Support Estimates (GSSE)</b>											
<b>Budgetary expenditures MAAR</b>	in Mill. SYP	1517	1737	1950	2043	2487	2770	3812	4061	4322	3590
<b>Operating expenditures MAAR</b>	in Mill. SYP	884	1275	1667	1288	1367	1701	1717	1798	1835	1883
<b>Ministry of Irrigation</b>	in Mill. SYP	4608	12747	6517	8850	8826	11761	11343	14065	13389	11346
<b>Ministry of Supply</b>	in Mill. SYP	n.a.									
<b>Total GSSE</b>	in Mill. SYP	7009	15759	10134	12181	12681	16232	16872	19924	19546	16819
<b>Percentage GSSE</b>	in % of GAO	6	11	6	7	6	7	6	7	6	6
<b>Consumer Support Estimates (CSE)</b>											
<b>Transfers to consumers from taxpayers</b>	in Mill. SYP										
<b>Percentage CSE</b>	in % of GAO	0	0	0	0	0	0	0	0	0	0
<b>Total Support Estimate (TSE)</b>											
<b>Producer Support Estimates</b>	in Mill. SYP	34662	46083	64049	76517	65542	55605	55727	41528	32775	40412

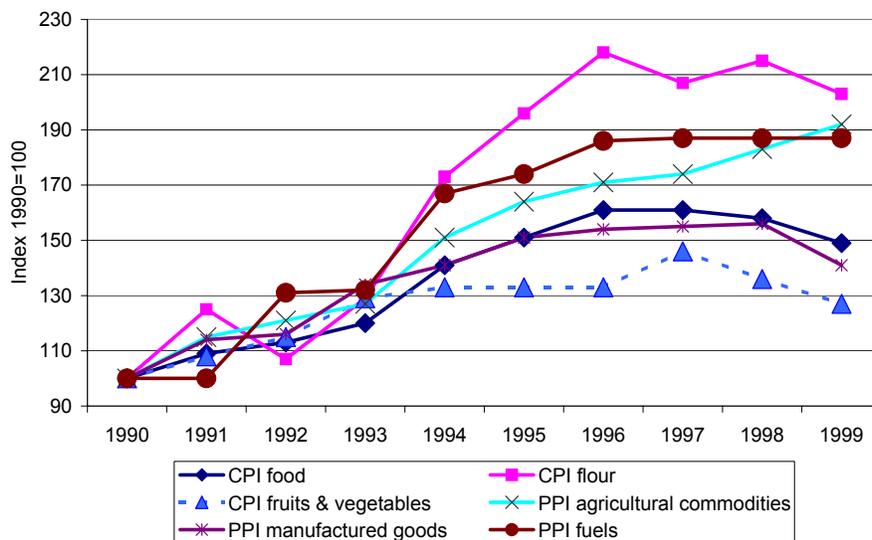
<b>General Services Support Estimates</b>	<b>in Mill. SYP</b>	7009	15759	10134	12181	12681	16232	16872	19924	19546	16819
<b>Consumer Support Estimates</b>	<b>in Mill. SYP</b>	0	0	0	0	0	0	0	0	0	0
<b>Budget revenues from agriculture</b>	<b>in Mill. SYP</b>	4013	4013	6749	7771	9068	10599	16964	22280	22717	22978
<b>TSE</b>	<b>in Mill. SYP</b>	34761	50384	52242	61607	55276	48785	45698	29166	16952	22896
<b>Percentage TSE</b>	<b>in % of GAO</b>	28	35	30	33	26	20	16	10	5	8

Note: a) Data for 2000 was not available yet.

Source: MAAR, 2001, Ministry of Irrigation, 2001; Sources for the data used for the calculations of MPS is reported in respective Tables of this report.

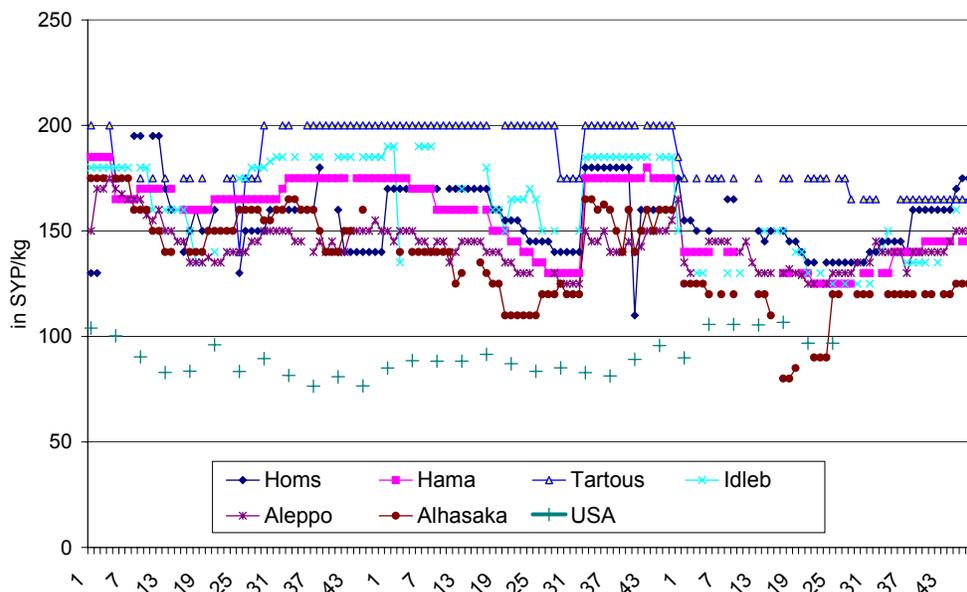
**CHAPTER 4.8: PRICE ANALYSIS: TERMS OF TRADE AND MARKET INTEGRATION**

**Figure 4.8-1: Development of consumer and producer price indices (CPI and PPI) for food, manufacturing goods, agricultural commodities, and agricultural inputs (fuel), 1990=100**



Source: Central Bureau of Statistics, 2000.

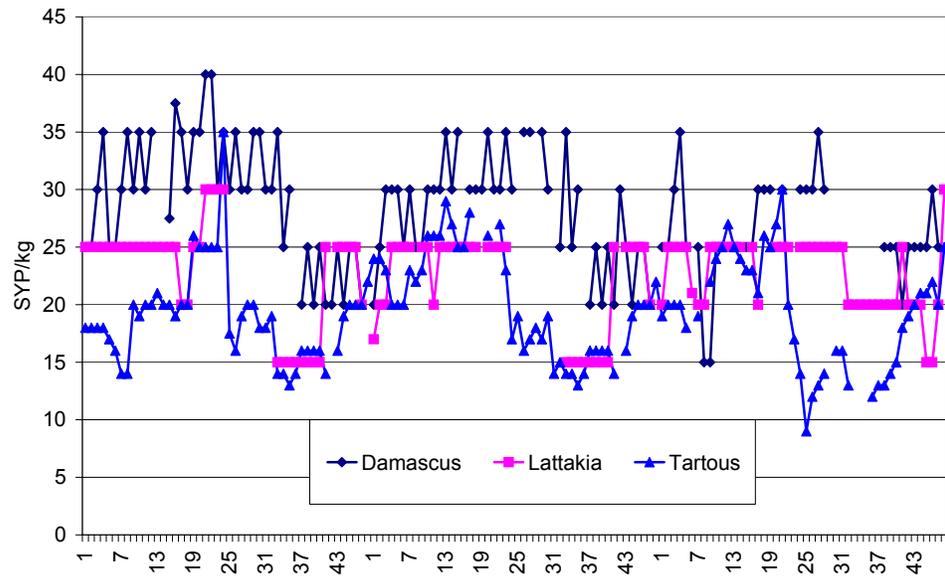
**Figure 4.8-2: Weekly wholesale prices for Lamb in SYP/kg for six Syrian governorates between Jan. 98 and Nov. 2000 and for the USA<sup>1)</sup>**



Notes: US prices for feeder lamb (in St. Angelo) were available only on a monthly basis. They were converted into SYP/kg by using the average annual trade weighted exchange rate (see Table ...).

Source: Syrian price data from MAAR; US price data from USDA.

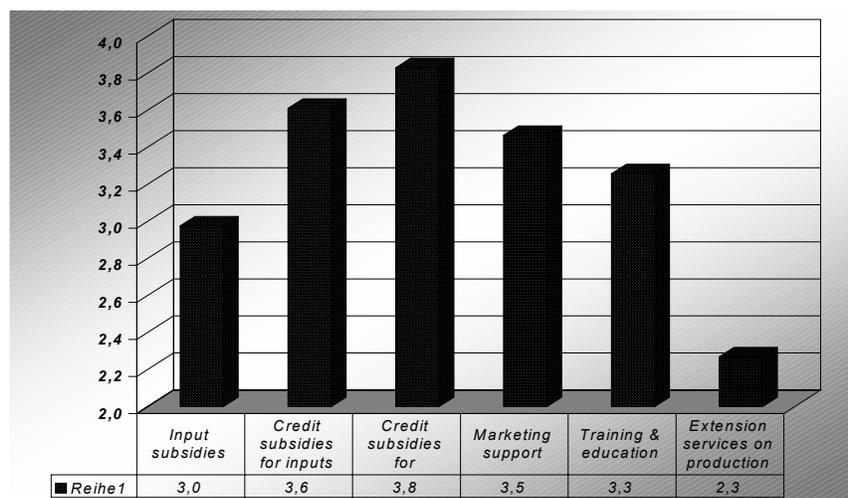
**Figure 4.8-3: Weekly retail prices for apples in SYP/kg for three Syrian regions between Jan. 98 and Nov. 2000**



Source: MAAR, 2001.

## CHAPTER 4.9: FARM-LEVEL SURVEY

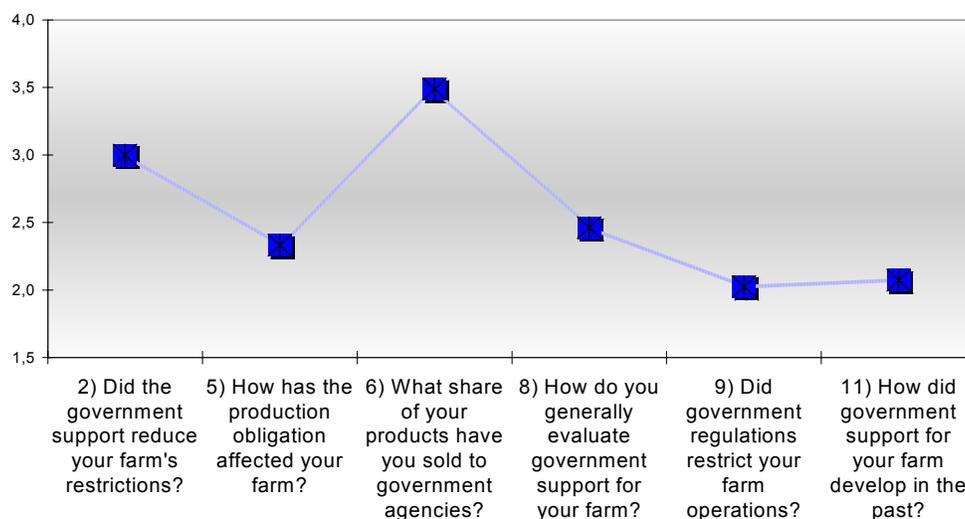
**Figure 4.9-1: Answers to question 1: From which type of state support has your farm benefited most during the last few years?<sup>1)</sup>**



Note: 1) 1 for 'This form of state support has been very important' and 5 for 'This form of state support has not been important at all'.

Source: Farm-household survey conducted by Center "Institutional Strengthening and Policy Reform", May and June 2001.

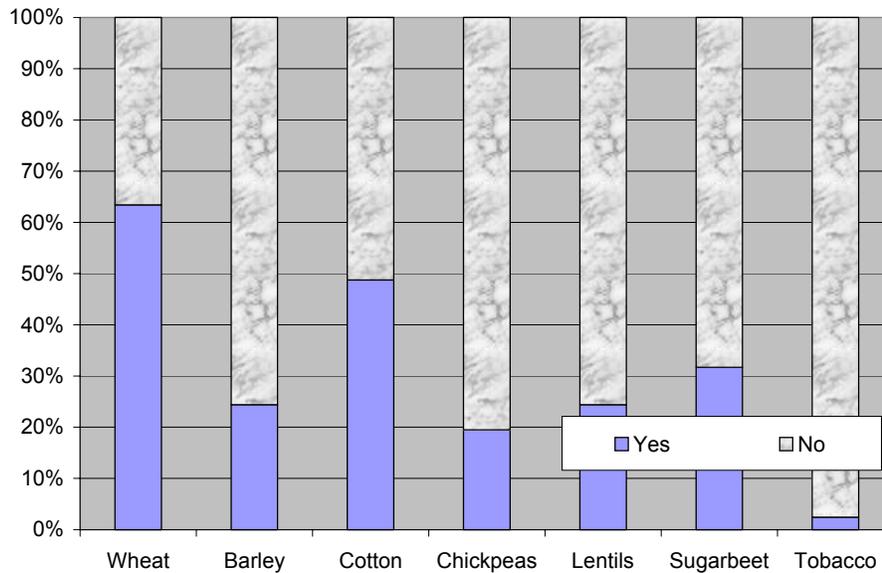
**Figure 4.9-2: Answers to questions 2, 5, 6, 8, 9, 11 (see Chart) evaluated on a scale between 1 and 5<sup>1)</sup>**



Note: 1) Answers to all questions were possible on a scale between 1 and 5. The following answers were associated with the answers: In the case of question 1: 1 for 'very much' and 5 for 'not at all'; Question 5: 1 for 'Production would have been the same' and 5 for 'Production would have been completely different'; Question 6: 1 for 'Share was 0-20%' and 5 for 'Share was 80-100%'; Question 8: 1 for 'was very helpful' 5 for 'was not helpful at all'; Question 9: 1 for 'Government regulations were not restricting farm operations negatively at all' and 5 for 'restrictions were very negative'. Question 11) 1 for 'Government support stayed the same' and 5 for 'Government support decreased significantly'.

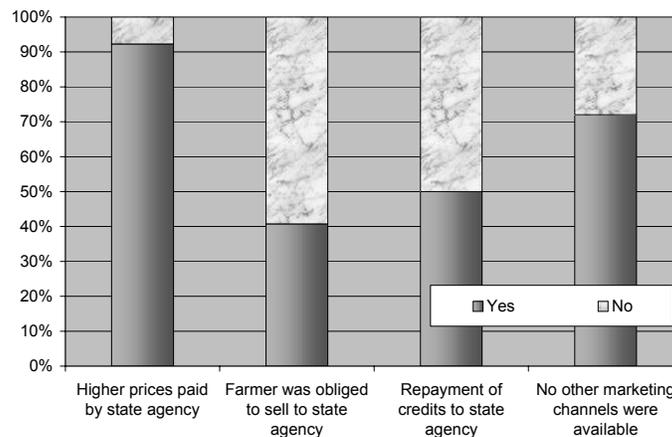
Source: Farm-household survey conducted by Center "Institutional Strengthening and Policy Reform", May and June 2001.

**Table 4-9.1: Answers to question P4: Are you obliged to produce any of the following strategic crops?**



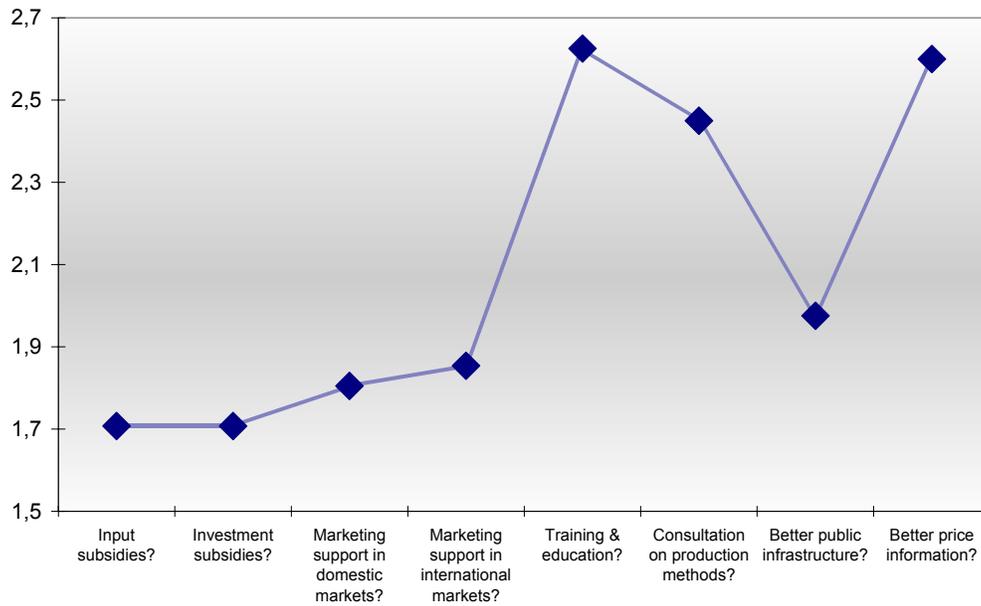
Source: Farm-household survey conducted by Center "Institutional Strengthening and Policy Reform", May and June 2001.

**Figure 4-9.3: Answers to question 7: If you sold your products to government agencies, why did you do so?<sup>1)</sup> Share of respondents which indicated 'yes, this factor was important' or 'No, this factor was not important'**



Source: Farm-household survey conducted by Center "Institutional Strengthening and Policy Reform", May and June 2001.

**Figure 4-9.4: Answers to question 12: In which of the following areas would additional government support be beneficial for your farm?<sup>1)</sup>**



Note: The respondent could choose any figure between 1 and 5 to indicate the relevance of the respective factor. 1 for ‘this factor would be very beneficial for my farm’ and 5 for ‘additional support in this area would not be helpful at all’.

Source: Farm-household survey conducted by Center ”Institutional Strengthening and Policy Reform”, May and June 2001.



## Questionnaire for Farm Household Survey: Addendum on “Evaluation of Agricultural Policies”

### Module P: Assessment of regulations and state support to agriculture in Syria

*Interviewees:* Please, inform the farmer that the objective of the following module in the questionnaire is to collect **the farmer’s opinion and evaluation of current agricultural policies in Syria** and its effects on his farm.

Instructions for interviewers to code the answers:

- If the respondent has a choice from “1 to 5” please enter the chosen number in the square.
- If the possible answer to one question is “yes” choose 1 if it is “no” choose 2.
- If the farmer refuses to give an answer to the respective question the appropriate code is “777”; if he states “The answer is hard to tell” use “666”; if the question is not applicable please insert “888”.

P1) From which type of state support has your farm benefited most during the last few years?

Coding instructions: Please report the judgement of the farmer for each answer indicated below; assign 1 for ‘this form of state support has been very important’ and 5 for ‘this form of state support has not been important at all’:

- |   |  |
|---|--|
| <input type="checkbox"/> 4a) Input subsidies                  | <input type="checkbox"/> 4b) Credit subsidies for inputs                           |
| <input type="checkbox"/> 4c) Credit subsidies for investments | <input type="checkbox"/> 4d) Marketing support                                     |
| <input type="checkbox"/> 4e) Training and education           | <input type="checkbox"/> 4f) Extension service: Consultation on production methods |
| <input type="checkbox"/> 4g) Other, please specify: .....     |  |

P2) To which extent did the above mentioned government support provided to your farm reduce the restrictions your farm faced during the last years

Coding instructions: 1 for ‘very much’; 5 for ‘not at all’)?

- 1     2     3     4     5

P3) Do you have to pay any taxes or fees to the government such as income, sales taxes or production fees? If yes, please specify which.

Coding instructions: interviewer please take notes here of the answers:

.....

P4) Are you obliged to produce strategic crops?

Coding instructions: Please ask for an answer for each product and use 1 for ‘yes’ and 2 for ‘No’

- |   |                                      |   |                                      |
|---|--------------------------------------|---|--------------------------------------|
| <input type="checkbox"/> 1a) Wheat      | <input type="checkbox"/> 1b) Barley  | <input type="checkbox"/> 1c) Cotton     |                                      |
| <input type="checkbox"/> 1d) Chick-peas | <input type="checkbox"/> 1e) Lentils | <input type="checkbox"/> 1f) Sugar-beet | <input type="checkbox"/> 1g) Tobacco |

If the answer to the last question was 'no' please proceed with question P6 (otherwise continue with question P5):

P5) How has the production obligation for specific strategic crops affected your production decision?

Coding instructions: Choose 1 for 'Production would have been the same' and 5 for 'Production would have been completely different'.

- 1                       2                       3                       4                       5

P6) What share of your products have you sold during the last year to government agencies? Choose the appropriate answer.

Coding instructions: Choose 1 for '0-20%' and 5 for '80-100%'.

- 0-20%                       20-40%                       40-60%                       60-80%                       80-100%

P7) If you sold any products to government institutions, why did you do so?

Coding instructions: Various items can be chosen. Use 1 for 'yes' and 2 for 'No'

- 7a) Price was higher than from private sector                       7b) I was obliged to do so  
 7c) Because I had to repay credits to the state administration                       7d) No other marketing channels were available  
 7e) Other reasons: .....

P8) How do you generally evaluate the government support your farm received during the last years?

Coding instructions: 1 for 'was very helpful', 5 for 'was not helpful at all'

- 1                       2                       3                       4                       5

P9) There also might have been administrative or government regulations which restricted the operation of your farm such as production controls, obligatory marketing to the state etc. Please evaluate how such government restrictions have affected your farm operation.

Coding instructions: 1 for 'government regulations were not affecting farm operation negatively at all' 5 for 'restrictions were very negative'.

- 1                       2                       3                       4                       5

P10) Please specify which government regulations have restricted your farm operation, if any:

.....

P11) How did government support for your farm develop during the last five years?

Coding instructions: 1 for 'stayed the same'; 5 for 'decreased significantly'

- 1                       2                       3                       4                       5

P12) Assume that the government wants to restructure its support to Syrian agriculture! In which of the following areas would additional support from the government be most beneficial for you?

Coding instructions: Please ask the farmer to give a judgement for each item. He can choose 1 for ‘additional government support in the respective policy area would be very beneficial for my farm’ and 5 for ‘additional support would not be helpful for my farm at all’:

- |  |  |
|--|--|
| <input type="checkbox"/> 12a) Input subsidies  | <input type="checkbox"/> 12b) Investment subsidies                 |
| <input type="checkbox"/> 12c) Marketing support in domestic markets  | <input type="checkbox"/> 12d) Marketing support in foreign markets |
| <input type="checkbox"/> 12e) Training and education in farm practices                                       | <input type="checkbox"/> 12f) Consultation on production methods   |
| <input type="checkbox"/> 12g) Provision of public infrastructure such as road transportation                 |  |
| <input type="checkbox"/> 12h) Provision of price information for your farm’s products in neighboring markets |  |
| <input type="checkbox"/> 12i) Other, please specify: .....   |  |

Thank you for taking the time to answer these questions!

End of questionnaire!

---

Are there any particular observations you made or additional comments of the farmer which might be important for the evaluation of this questionnaire? If yes, please note:

.....

## **Terms of reference**

### **Explicit and Implicit Taxation of Agriculture in the Syrian Arab Republic, and Implications for Net Transfers to Agriculture**

**Duration:** 1st Mission 3½ weeks

2nd Mission 5½ weeks

**E.O.D.:** 1st Mission: As soon as possible

2nd Mission: 6 weeks after the conclusion of first mission

**Duty Station:** Damascus, Syria

**Language:** English

## **Rationale:**

The Syrian trade in agricultural products is characterised by complex and segmented regulatory and institutional system: product specific tariff and non-tariff measures, product heterogeneous currency regulations linking import and export operations, a system of specialised state trading enterprises acting, in some cases, as legal monopolies. It is important to understand the implications of this system for agricultural explicit and implicit taxation.

## **Activities:**

Under the direct supervision of the FAO Operations Service in the Near East (RNER) and the Technical supervision of the Policy Assistance Branch (RNEP), and the CTA and in close collaboration with the Director of NAPC / National Project Director, Agricultural Economist and the National Task Force, the Consultant will prepare a detailed Policy study on "Explicit and Implicit Taxation of Agriculture in the Syrian Arab Republic, and Implications for Net Transfers to Agriculture".

In particular the consultant will:

1. Provide a systematic account of all the regulatory and institutional elements defining the present setting for agro-food trade, with special reference to exchange rate regime, currency regulations, tariff and non-tariff measures, taxes and subsidies on import and export, and their

interdependence and role in defining the present trade environment. Assess how these have changed over time on a product by product basis.

2. Identify, describe and analyse the interrelations of the existing regulatory system of external transactions with domestic prices' determination mechanisms, both public and private.
3. Assess the differences between domestic producer prices and those at international markets (adjusted to Syrian border and to producer level), at both official as well as market exchange rates.
4. Assess the equilibrium exchange rate to the extent that is different than the market rate and adjust the producer and international prices accordingly.
5. Assess the degree of direct (namely without exchange rate adjustments) and indirect (namely with exchange rate adjustments) taxation of the main traded agricultural products. Such products should include wheat, cotton, sugarbeet, barley, tobacco, lentils, chickpeas, the main fruits and vegetables, olive oil, and some livestock products. The assessment should be made for a set of years spanning the period 1990 to 1999 or if possible 2000.
6. Estimate the direct and indirect aggregate fiscal implication by expanding the estimates of direct and indirect taxation by product to estimate the aggregate magnitudes of the direct and indirect fiscal flows, generated by the various domestic and trade policies.
7. Assess the present amount and evolution over time of public financial outflows towards agriculture, with special attention to
  - public investment projects,
  - agricultural credit administrative system governing the agro-food sector,
  - agricultural taxes, fees and other fiscal revenues from domestic activities,
  - custom proceedings and other revenues from agricultural trade, and
  - net transfer from public enterprises
8. **Estimate the overall net direct financial cost of the present agro-food policy regime as well as the trend of the net financial cost overtime. Assess the indirect cost or transfers based on the implicit exchange rates**
9. Prepare project profiles for provision of technical assistance in key areas of the explicit and implicit taxation of agriculture in the Syrian Arab Republic, and implications for net transfers to agriculture that can be submitted to funding sources.
10. Prepare a Technical report including the results of his/her study.

To accomplish the above tasks, the consultant shall undertake two missions to Syria.

In the first mission of three weeks duration in Syria, the consultant will:

- Undertake field visits and conduct interviews with concerned parties to have a preliminary understanding of the explicit and implicit taxation of agriculture in the Syrian Arab republic, and implications for net transfers to agriculture;
- Prepare a plan of work and develop a detailed scheme of analysis;
- Provide detailed account of the data and information required for the successful completion of the suggested study and appropriate methodologies for its collection and preliminary processing;
- Propose a time schedule for data collection and analysis;
- Train members of the task force on data collection and processing;
- Supervise initial stages of data collection and provide on-time guidance; and
- Prepare a report in English on his preliminary findings and indications on the main areas of concern he / she plans to address in the second mission and an annotated

outline of the final study-report, and submit to the FAO Operation Service in Cairo.

In the second mission of five weeks duration in Syria, the consultant will:

- Review and validate the data collected by the task force, identify gaps and take necessary action for quickly filling these gaps;
- Organize and implement a short training session for the project trainees to illustrate the methodology employed in this study, and highlight its main findings;
- Give a seminar at the end of the assignment for senior Government officials of MAAR, other relevant institutions and parastatals, concerned political and professional organizations, concerned agents in the private sector and representatives of the donor community, to present and discuss the results of the study.
- Prepare while in Syria, a draft technical report in English (with an executive summary) including the main findings, conclusions and policy recommendations on the explicit and implicit taxation of agriculture in the Syrian Arab republic, and implications for net transfers to agriculture and submit it to FAO for clearance; and
- Provide a brief evaluation of the support provided by each member of the task force, excluding the trainees.

The Consultant will finalize the report, including FAO comments and submit it to FAO, both as hard copy and on diskette, within two weeks from receiving those comments.

**Qualifications:**

Advanced degree in economics/agricultural economics with 10 years experience in macroeconomic policies and the implications of taxation of agriculture for the net transfers to sector in developing countries and countries in transition.

## **Project profiles for future studies**

### **Profile No. 1: Analysis of agricultural policy reforms in Syria on food consumers**

Agricultural policy reforms not only affect producers but also food consumers. These effects are likely to be the more significant the higher the share of food expenditures in total expenditures. According to Engel's Law this share decreases as average incomes increase. Hence, the effects of agricultural policy reforms not only differs between countries with different income levels but also within one country in which various income levels prevail.

Many households in Syria live in poverty with respect to various indicators. Generally, the share households have to spend on food is relatively high. Therefore, the government of Syria implemented food price subsidies in the past. However, these have been very costly particularly as producer prices for major agricultural food products have also been highly subsidized. In the course of liberalizing Syria's agricultural policies, consumer food subsidies have also been phased out. The effects of the respective policy changes are widely unknown. Currently, the only major products that continue to be subsidized for all consumers are flour and bread. Other product-specific consumer subsidies have been widely dismantled already.

Further reductions in consumer subsidies might prove to be rather harmful particularly for the lowest income groups. Targeted food subsidies might be an appropriate tool to reduce the social costs of food consumer subsidies. However, efficient ways of administering such targeted food subsidy schemes have to be identified.

Therefore, a study should be carried out which has the following objectives:

- descriptive assessment of current food consumer subsidy schemes;
- quantitative assessment of current expenditure structure of Syrian households of various income groups;
- analysis of the effects of agricultural policies on food consumers;
- recommendation on organizational design of targeted food subsidy schemes.

Methodologically the study should be based on:

- a systematic account of all consumer food subsidy schemes currently in force in Syria;
- a rather large household survey of urban and rural households on expenditures and incomes;
- a cluster analysis with which various household types can be identified according to socio-economic, regional and other characteristics which will allow to trace the effects of simulated price changes of major food commodities which could be the result of future agricultural policy changes.
- the primary data collected in this survey could also serve as an important data source for the specification of household composition in an economy-wide model of Syria which is proposed in the following project profile.

## **Profile No. 2: Assessment of the effects of agricultural policies and macro-economic policies on Syrian agriculture with an applied computable general equilibrium (CGE) model**

The quantification of the effects of agricultural policies in this study relied by and large on partial equilibrium analysis. However, it was pointed out that macroeconomic policies such as investment, credit, and exchange rate policies etc. do have significant effects on agriculture in general and on agriculture in Syria in particular.

An adequate tool for the analysis of the economy-wide effects of agricultural policies as well as of the effects of macro-policies on agricultural sector development would be a general equilibrium model. Empirical analysis with applied computable general equilibrium (ACGE) models has been done frequently ever since in the late 70s first macro-structuralistic models for developing countries have been developed, for instance, by Lysi and Taylor (for Brasil) and by Adelman and Robinson (for South Korea). Today various so-called micro-structuralistic models exist for developing countries. They incorporate many of the structural rigidities within the respective economies such as capital or labor immobility between sectors, fixed prices or quantitative constraints on production and/or imports/exports between different sectors.

Lately several such micro-structuralist models have been developed for transition economies as well. The international consultant of this study developed and described such a model for the Russian Federation (Wehrheim 2001 and 2001). The model has a specific focus on agriculture and the food industries. Out of a total of 20 sectors into which the Russian economy has been split, 10 belong to the agro-food sectors. The primary farm sectors are differentiated according to various structural characteristics (size, type of products and type of operation, i.e. private farms, subsistence farms, or collective farms).

In order to assess the whole set of national sector-specific and macro-economic policies which currently affect the agricultural sector in Syria, the development of an applied general equilibrium model would be of relevant. Various data components must be available for one year of the recent past:

- An Input-Output-Table (IOT)
- An Social Accounting Matrix (SAM)

The SAM normally can be compiled from the System of National Accounts but the IOT has to be compiled by the National Statistical Office.

If these data components were available the theoretical structure of the model could be linked with this first data base. Thereafter, in consecutive steps, the data base of such a model could be improved by adding micro-economic data from farm and household surveys conducted by the project team.

The terms of reference of such a study should contain at least the following tasks:

- Screening the available data
- Compiling a consistent IOT and SAM for a recent year
- Developing an appropriate theoretical structure of the model for the Syrian economy
- Combining the data base and the theoretical structure of the model in a software which allows to do mathematical programming (e.g. GAMS)
- Instruction and training of national experts on the model
- Processing micro-economic data such that it can be included into the model's data base.

- Carrying out policy simulations on various policies which are relevant for Syria's agricultural sector e.g.: abolition of agricultural export taxes; devaluation of the exchange rate; reducing quantitative production constraints, etc. It should be clear that such a study needs substantial resources. Because of the tedious work involved in developing the data base of such a model, the respective study should be implemented in various consecutive missions and in close cooperation with national experts.

References for this project profile:

WEHRHEIM, P. (2001): Economy-wide Analysis of Russia's Agro-food Sector in Transition. Book manuscript, 225 pp. (forthcoming).

WEHRHEIM, P. (2000): The role of the agro-food sector in the macro-economy: General equilibrium effects. *In: Wehrheim, P., K. Frohberg, E. Serova, and J. von Braun* (eds.): *Russia's Agro-food Sector: Towards Truly Functioning Markets*. Kluwer Academic Publishers, Boston/Dordrecht/London: 155-79.

### **Profile No. 3: Quantitative assessment of marketing costs which are associated with domestic and international trade operations of agricultural commodities**

A quantitative and systematic assessment of marketing costs which are associated with sales of agricultural commodities would be an essential task in order to identify the most important bottlenecks preventing a higher competitiveness of Syria's agricultural products. Hence, the most important reason for a systematic assessment of the marketing costs would be the identification of areas in which institutional change and policy initiatives could bring about a reduction of marketing costs.

Furthermore, a systematic account of the marketing costs for all major agricultural crops would allow comparisons between various crops. It also should be expected that marketing costs for agricultural commodities differ substantially between domestic and international marketing channels and for various commodities. A third reason would be that such estimates could serve as inputs for various other means of quantitative analyses: first, the marketing margins could be used for the adjustment of domestic (international) commodity prices to the same point of competition; second, such marketing margins could be incorporated in an applied general equilibrium model in which various agricultural commodities would be represented.

The assessment should be based on the same methodology for all major commodities and for the most recent five year period. The assessment of marketing costs over time would allow to more exactly estimate the indirect transfers (Market Price Support) which will become a more and more important indicator as Syria will integrate its agricultural sector further into the world economy. Particularly in the framework of possible WTO accession negotiations the calculation of the agricultural support level during the reference period will mandate the availability of more exact estimates of domestic and international marketing margins.